Designing a Virtual Exhibition for Google Arts&Culture: Public Art, Technology and Intercultural Communication

Hugo Miguel Moreira dos Reis Costa

Internship Report

Masters in Intercultural Studies for Business

Versão final (Esta versão contém as críticas e sugestões dos elementos do júri)

Porto – 2018

INSTITUTO SUPERIOR DE CONTABILIDADE E ADMINISTRAÇÃO DO PORTO
INSTITUTO POLITÉCNICO DO PORTO

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presented to Instituto Superior de Contabilidade e Administração do Porto to obtain the Master's Degree in Intercultural Studies for Business, under the supervision of Dr. Sara Maria Cerqueira da Silva Pascoal

Porto – 2018

INSTITUTO SUPERIOR DE CONTABILIDADE E ADMINISTRAÇÃO DO PORTO
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Resumo

O presente relatório de estágio tem como objetivo descrever o trabalho desenvolvido no estágio realizado no Centro de Estudos Interculturais relativo à recolha, tratamento e implementação de material de investigação no âmbito do projeto interdisciplinar, desenvolvido no Mestrado em Estudos Interculturais para Negócios. Este projeto relaciona-se com o processo de curadoria da exposição virtual do Museu Internacional de Escultura Contemporânea de Santo Tirso, através do contacto direto com a plataforma Google Arts&Culture.

Num primeiro momento, a instituição onde o estágio foi realizado é introduzida, seguindo-se uma análise minuciosa do estudo das exposições virtuais, efetuada através da revisão de literatura. Num segundo momento, o projeto interdisciplinar, a plataforma Google Arts&Culture e o Museu Internacional de Escultura Contemporânea de Santo Tirso são cuidadosamente caracterizados. O segmento mais importante do relatório baseia-se na descrição da metodologia de trabalho em que consistiu o estágio no Centro de Estudos Interculturais. O relatório é concluído com uma análise dos resultados obtidos e propostas cruciais de melhoria relacionadas com o projeto.

Palavras-chave: Centro de Estudos Interculturais; Exposições Virtuais; Google Arts&Culture.

Abstract

The present internship report aims to describe the work developed at the internship carried out at the Center for Intercultural Studies regarding the collection, treatment and implementation of research material concerning the interdisciplinary project, developed at the Masters in Intercultural Studies for Business, related with the curating process of the virtual exhibition of the International Museum of Contemporary Sculpture of Santo Tirso, through the direct contact with the Google Arts&Culture platform.

In a first instance, the institution where the internship was realized is introduced, followed by a thorough analysis on the study of virtual exhibitions through literature review. Further in the report, the interdisciplinary project, the Google Arts&Culture platform and the International Museum of Contemporary Sculpture of Santo Tirso are meticulously characterized. The most important segment of the report relies on the description of the work methodology behind the internship at the Center for Intercultural Studies. The report is concluded with an analysis on the results achieved and crucial improvement proposals related with the project.

Keywords: Center for Intercultural Studies; Virtual Exhibitions; Google Arts&Culture.

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List of Abbreviations

CEI	Center for Intercultural Studies
FLUP	Faculty of Arts and Humanities of the University of Porto
INDICATE	International Network for a Digital Cultural Heritage e-Infrastructure
ISCAP	Porto Accounting and Business School
MIEC_ST	Santo Tirso International Museum of Contemporary Sculpture
MISB	Masters in Intercultural Studies for Business
P. PORTO	Polytechnic of Porto

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Chapter I – Introduction

The present internship report was elaborated within the scope of the Masters in Intercultural Studies for Business, held at Instituto Superior de Contabilidade e Administração do Porto, in order to obtain the Master's Degree in the aforementioned course. The four-month internship was carried out at the Center for Intercultural Studies, between February 21, 2018 and June 16 of the same year.

The main goal of the internship relied on the selection, design and implementation of the collected research material resultant from the interdisciplinary and collaborative project, carried out through four distinct curricular units of the masters, regarding the curating process of a virtual exhibition. The project accounted with the cooperation of both students and professors, in an attempt to promote the Portuguese cultural heritage, through the collaboration with the International Museum of Contemporary Sculpture of Santo Tirso and the Google Arts&Culture platform.

This internship report aims to thoroughly describe the work developed during the internship at the Center for Intercultural Studies and was executed with the intent of serving as a guide for potential similar projects, possibly carried out by either future master students of the MA in Intercultural Studies for Business, in an attempt to further develop the existent project or perhaps to delve into another venture, or cultural institutions, who would like to incorporate an innovative approach of presenting and promoting cultural heritage through a virtual environment.

The structure adopted for the execution of this internship report relies on seven key chapters. After this first chapter regarding the introduction to the internship report, the second chapter presents the Center for Intercultural Studies as a research institution, essentially through the description of its main objectives, foundation process, composing body, research lines and current projects.

The following chapter introduces the study of virtual exhibitions, through a meticulous analysis on the literature review regarding the mentioned topic. In this segment of the internship report, the notions of "virtual" and "exhibition" are separately defined and, later, combined under the concept of "virtual exhibition". Furthermore, it is examined the recent history of virtual exhibitions and the technological advancements which led to its consequential growth. The last section of this chapter answers the question "are virtual exhibitions the natural successor to the physical one?" through a careful comparison between both types of exhibition.

The fourth chapter explains what the interdisciplinary project, the Google Arts&Culture platform and the International Museum of Contemporary Sculpture of Santo Tirso consist of. In a first instance, it is described how the interdisciplinary project was organized and came into practice. Secondly, an analysis on the recent history of the Google Arts&Culture platform and the projects developed in the national and international panorama was achieved. Finally, the International Museum of Contemporary Sculpture of Santo Tirso was introduced.

The following chapter details the work methodology behind the internship at the Center for Intercultural Studies. In this chapter, a study on the unique stages which comprise the production process of a virtual exhibition is accomplished, followed by the characterization of the two main segments which compose the work developed at the internship: collection and treatment of research material, which contemplates the four different types of data analyzed, and implementation of research material, which encompasses the management of data in two distinct online platforms.

The final two chapters describe the analysis of results subsequent of the work developed at the internship and crucial improvement proposals related with the current and possible future projects, complemented by the conclusions achieved by the execution of this internship report.

Chapter II – Center for Intercultural Studies

2.1. Characterization of the institution

The Center for Intercultural Studies (CEI) of the Polytechnic of Porto (P. PORTO), created in 2007, carries out fundamental and applied research and cooperates with both national and foreign institutions in scientific, technical and cultural projects (Centro de Estudos Interculturais, 2018a). CEI's coordinator, Dr. Clara Sarmento, in an interview for P. PORTO TV, explains that the Center was informally conceptualized in 2005, when the Federal University of Bahia proposed the challenge of organizing, at Instituto Superior de Contabilidade e Administração do Porto (ISCAP), an international congress on the status of women in the Portuguese colonial empire, which was held in 2006. The congress was successfully organized and, later that year, a dynamic group with international contacts was formed and the informal foundations of the Center were launched, which were then substantiated and carried out in 2007 (Politécnico do Porto, 2017). Since then, "CEI has taken part in countless national and international conference and publications, funded research projects, and has published more than a dozen books for worldwide distribution, in the vast field of intercultural studies" (Centro de Estudos Interculturais, 2018a).

Currently, CEI is composed of more than 40 researchers and lecturers from P. PORTO and other national and international institutions, complemented by the support of an advisory board, comprised of 7 renowned lecturers from ISCAP. CEI's research lines are divided into three main topics: intercultural theories and practices (e.g. concepts of interculturalism and multiculturalism, fictional representations and cultural backgrounds, etc.), intercultural communication (e.g. cultural translation, multimedia and digital narratives, etc.), and intercultural business (e.g. intercultural tourism, intercultural communication in business, etc.) (Centro de Estudos Interculturais, 2018a).

2.2. Projects

At the moment, CEI is involved in numerous research projects, most notably the project titled "TheRoute – Tourism and Heritage Routes including Ambient Intelligence with Visitants' Profile Adaptation and Context Awareness", which focuses on conducting "studies, research and experimentation around the challenge of automatic generation of routes for visitors to points of interest (POI) related with Tourism and Heritage" (Centro de Estudos Interculturais, 2018b). In partnership with the 8 schools of P. PORTO, IPVC and the Portuguese enterprise Douro Azul, "TheRoute" project develops routes, in the north

region of Portugal, around a certain location, path or theme, which fit the profile of a visitor (or group of visitors), considering aspects such as their personality, mood, health and well-being, and focusing in certain characteristics of a given route, such as schedule, sustainability and accessibility (Centro de Estudos Interculturais, 2018b). Simultaneously, while working on material for "TheRoute", CEI's team of researchers embarked on a parallel project motivated by the discovery of unexpected and anonymous art displayed in the city walls. Therefore, a spin-off of "TheRoute" project, titled "StreetArtCEI", was created. The work methodology behind this project involves photographic collection and categorization, from which new routes emerge. The material collected is presented on StreetArtCEI website[1], which provides all the images, routes, files and reflection texts in open access to the general public (StreetArtCEI, 2018).

[1] Available at: https://www.streetartcei.com/ (Consulted June 16, 2018).

Chapter III – Literature Review

3.1. Virtual exhibitions

With the rise of the Internet in the late 1980's/early 1990's, virtual exhibitions became an important tool in which public and private bodies, institutions, and subjects, that make up the framework of cultural activities, could achieve promotion and dissemination of knowledge (INDICATE, 2012, p. 11). In fact, "virtual exhibitions" are, to this day, "potential applications for cultural institutions that pretend to disseminate contents of one of their most creative products: a temporal exhibit" (Carreras & Mancini, 2014, p. 87)

With this in mind, and before proceeding any further, it is important, if not necessary, to separately describe the notions of "exhibition" and "virtual", so that further ahead the concept of a "virtual exhibition" can be thoroughly analyzed with a deeper understanding of the previously mentioned terms.

Therefore, the International Network for a Digital Cultural Heritage e-Infrastructure (INDICATE), defines "exhibition" as

> events with a specific venue and time, during which the public can enjoy a series of objects, paper and/or multimedia documents, books, paintings, sculptures, and other items, related to each another and organized according to logical, thematic, spatial, historic, and/or authorial criteria, and made accessible either permanently or temporarily, through one or more narrative routes, with scientific, didactic, and/or promotional goals (2012, p. 15).

Furthermore, INDICATE states that an "exhibition" can be looked at by both a temporal and a spatial point of view (2012, pp. 15-16). From a temporal point of view, exhibitions carried out by cultural institutions can be:

1. Permanent – when the exhibition is a stable part of a cultural institution to the point of becoming an integral, essential part of its ordinary activities (e.g. museum or gallery);
2. Temporary – when the exhibition has an end date and deals with a specific issue, topic, or author.

From a spatial point of view, exhibitions can be staged:

1. On the premises of the cultural institutions;
2. On other premises, which are related to the institute and represent it;

3. Along a thematic route through the local territory, involving various cultural subjects and establishing a historic/tourist/cultural itinerary.

On the other end of the spectrum, we have the concept of "virtual". Nohria and Berkley (as cited in Gibbs, 2017, p. 61) trace back the term to as early as the mid-19th century, where it was broadly referred as "structures and objects whose ontological status lies in the fuzzy realm between fact and apparition". Gibbs explains that "since the late 1980s, the term virtual has taken on currency in describing computerized technologies that provide simulations of physical reality", which he believes it only further accentuates the idea of "virtual" being interpreted as a "separate space that is divorced from reality" (2017, p. 61). Kurbalija (2015) relates the concept of "virtual" to the "intangible nature of the Internet", as he believes that "academics and Internet pioneers used virtual to highlight the novelty of the Internet, and the emergence of 'a brave new world'". Adding to the definition provided by Gibbs, Kurbalija is certain that the idea of "virtual" "introduces the ambiguity of being both intangible and, potentially, non-existent" (2015).

While acknowledging the previous analysis, the comparison of the terms "exhibition" and "virtual" strengthens an undeniable distinction between what's tangible and what's not, further underlined by a rather individual perception of reality. Combined, a "virtual exhibition" falls outside the traditional space/time parameters, normally associated with a physical exhibition, and instead relies on IT platforms for its creation and development (INDICATE, 2012, p. 17). Although being a somewhat vague and unclear concept, some authors have attempted to define the term "virtual exhibition".

Silver (as cited in Foo, 2008, p. 22) suggests that "virtual exhibitions" can be defined as "online Web-based hyper-textual dynamic collections devoted to a specific theme, topic, concept or idea". Foo complements Silver's definition, stating that "virtual exhibitions are viewed as dynamic as they often undergo ongoing change in terms of design, activity and content, including encouraging users to contribute towards it, thereby adding to its dynamism" (2008, p. 22). Foo goes on to give its own definition of "virtual exhibition", saying that the concept involves a

> web-based hypermedia collection of captured or rendered multi-dimensional information objects, possibly stored in distributed networks, designed around a specific theme, topic, concept or idea, and harnessed with state-of-art technology and architecture to deliver a user-centered and engaging experience of discovery,

> learning, contributing and being entertained through its nature of its dynamic product and service offerings (2008, pp. 22-23).

In the same line of thought, Ramaiah proposes that "virtual exhibitions" consist on

> the collection of digital replicas of real events or objects developed with the help of multimedia and virtual reality tools which produce a simulated environment in a computer, and delivered through web so that users will get the same satisfaction as they are seeing or using the physical objects in real life (2014, p. 84)

Additionally, Ramaiah contextualizes the difference between online and virtual exhibition, referring that "all virtual exhibitions are online exhibitions but not vice versa. Normally all virtual exhibitions will provide a simulated real environment which is a bit more difficult, expensive, and time consuming to develop than a simple online exhibition" (2014, p. 84).

In the framework of "virtual exhibitions", it is essential to acknowledge that the content provided must have a connection among itself, and that

> a collection of digital items, in and of itself, does not constitute a virtual exhibition. It is only when the items are carefully selected to illustrate a topic, and are tied together forming a narrative or a logical itinerary, that they constitute an exhibition (INDICATE, 2012, p. 18)

We can acknowledge, through the definitions provided by the previous authors, that "virtual exhibitions" are only conceivable and put into practice due to the technological advancements achieved in recent years. In order to understand the current impact that "virtual exhibitions" have in cultural institutions and society, it becomes essential to investigate its history and consequential growth.

Accordingly, Carreras and Mancini explain that

> the coming of world wide web (www) and internet in the mid 90's brought about many potential applications of this technology [virtual exhibitions] into a myriad of fields and professional sectors. One of them is memory institution (museums, libraries, and archives), which generated great expectations about the potential of such a new media because of their dissemination power, which could widen the visitors and service users of the particular institution (2014, p. 88).

Many curators, librarians and archivists thought that “virtual exhibitions” would be a great alternative to keep temporary physical exhibitions relevant, as they would often require an unnecessary effort in economic and intellectual terms (Carreras & Mancini, 2014, p. 88). These so called “memory institutions” regarded “virtual exhibitions” as a post-exhibition application, valuing them as “a way to give universal access to a temporary event that was no longer in place” (Carreras & Mancini, 2014, p. 88).

In the late 1990’s, Su, Yen and Zhang (1998, p. 615), in their proposition for the creation of an “internet based virtual exhibition system”, stated that “to meet the emergent demand for information, there have already [*sic*] overwhelming number of virtual exhibitions available on the Internet; however, most of the existing virtual exhibitions are not satisfactory in terms of performance and presence”. In fact, regarding the performance issue connoted by the previous authors, Bowen, Bennett and Johnson (1998), in the same time period, advised cultural institutions, if their intention was to organize a “virtual exhibition”, to “avoid making high-quality graphical images”, due to the fact that “such images are slow-loading and should never be included in navigation pages within a Web site”.

However, despite all performance or other related issues that could occur, Su et al. (1998, p. 616) explain that

> it is prominent to develop Internet based virtual reality exhibition systems which combine the advantages of both the efficiency and popularity of the Internet and the high sense of reality in virtual reality that people need not to attend the real exhibitions to save time and energy. Such systems, on one hand, are the same informative as traditional exhibitions and, on the other hand, are more flexible to solve the temporal and spatial constraints in traditional exhibition to allow users to attend exhibition anytime and anywhere.

In addition, Bowen et al. (1998) recommended that cultural institutions should “not try to re-create the "traditional" museum experience”, stating that “the Web is a different medium with its own strengths and weaknesses which should be exploited to enhance the virtual visitor experience”.

As we can understand by the statements provided by the authors referenced above, at the turn of the 21st century, “virtual exhibitions” were not as nearly as developed as they currently are, lacking in technological advancements and support from cultural institutions,

like museums, as a great part of its staff did not understand why a virtual exhibition should be created in the first place, leading them to be afraid of something new that could change their jobs and, consequently, their work environment (Monfort, 2001, p. 95).

Nonetheless, the transition to the new millennium saw a considerable amount of innovation that would directly impact how "virtual exhibitions" would be composed and interpreted in the future. "New multimedia formats came into existence, such as audio and streaming video, live web casts, quizzes and games" (Carreras & Mancini, 2014, p. 89) and "flash technology" was introduced, which granted the ability to create a rather complex online exhibition, which often led to an involvement of "a team of multimedia developers from private companies or [a] collaboration with ICT institutions such as universities" (Carreras & Mancini, 2014, p. 90).

Evolution was not only being accomplished through technological advancements but also by the progression in how society perceived certain topics. "Around 2003-2004, cultural websites start talking about web 2.0" (Carreras & Mancini, 2014, p. 92), a term turned popular by O'Reilly Media, an American company. Its founder, Tim O'Reilly, defines the term as

> the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation," and going beyond the page metaphor of Web 1.0 to deliver rich user experiences (O'Reilly, 2005).

According to Carreras and Mancini (2014, p. 92), the "Web 2.0" brought some advantages into the organization of "virtual exhibitions", specifically:

1. The ability to capture new audience or retain the old one;
2. The possibility to evaluate the success or failure of the exhibition and the audience's preferences;
3. The capacity to promote events and initiatives at low cost and to develop vital marketing phenomena;

4. Benefits of exploiting the educational potential of the constructivist learning model through collaboration and online dialogue.

Most recently, with the introduction of Earth representation software (e.g. Google Earth), new types of virtual exhibitions have arisen, where users can "make virtual trips and discover new ways to access information or objects" (Carreras & Mancini, 2014, p. 93), through features like Google's "Street View", where an individual can virtually explore international landmarks, discover wonders of nature and even visit places like museums, stadiums, parks and much more.

To conclude this brief analysis on the recent history of "virtual exhibitions", Carreras and Mancini (2014, p. 95) explain that "new technological developments have provided new potential tools to be applied in virtual exhibits as a way to disseminate displays that reflect intellectual initiatives and creations of memory institutions". In fact, the introduction to technological innovations, as "flash technology" or Earth representation software mentioned before, lead Carreras and Mancini (2014, p. 95) to believe that it has "provided new potential narratives and aesthetics for virtual exhibitions that can become powerful alternatives to real experiences".

With this statement in mind, a debatable question arises: is the "virtual exhibition" the natural successor to the physical one? As we can understand, in the past, "virtual exhibitions" "were seen as complementary to real displays" (Carreras & Mancini, 2014, p. 95), as they were often critiqued "for their inability to provide the experience of the real thing" (Foo, 2008, p. 23). In accordance, Lester (2006, p. 95) explains that although a "virtual exhibition cannot provide an encounter with the 'real thing' . . . it can allow the user to understand and be able to do far more than she or he could do in a physical exhibition". However, at the beginning of the millennium, regarding the implementation of "virtual exhibitions", the staff of cultural institutions, notably museum personnel, were still unconvinced by its concept, as Monfort (2001, p. 95) states that they justified their disbelief through the following reasons:

1. Virtual exhibitions get visitors away from real exhibitions, so they can be a threat for the own institution;
2. If visitors wish to remember an exhibition, they can always buy the catalogue, therefore some people identify virtual displays as catalogues on-line;
3. The virtual exhibition can be only useful when the real display is dismantled, because they do not compete with each other;

4. The Museum's should focus only on local visitors, therefore there is no need to translate contents online for a global public;
5. Internet is only seen as media of dissemination of Museum's activities, in other words an electronic booklet.

For a greater understanding on how both these types of exhibitions operate, their comparison becomes inevitable. Accordingly, Wang and Liu (2010, p. 711) contrast the differences between "physical" and "virtual" exhibitions in the following table (Table 1):

Table 1 – Comparison of developing exhibition and traditional exhibition

Character	**Developing exhibition**	**Traditional exhibition**
Means of organizing exhibition	Online information, supplemented with other media promotion	Document, fax, telephone, E-mail, etc.
Release range	Each corner in the world, directional release	Limited range, directional release
Exhibition site	Actual scene, virtual space	Actual scene
Means of display	Demonstration of material object, text, picture, audio, animation, and other multimedia	Mainly demonstration of material object
Exhibition period	Theoretically can continue indefinitely	Fixed time limit
Range of visitors	Facing the network users	Specific areas or specific professional personals

The ways visitors gather at target exhibitors	With the help of computer and network search, arrive to the virtual pages including exhibitor's information, or actual booths	At exhibition venue, search the target by booth numbers
Means of communication	E-mail, network meeting, face-to-face	Face-to-face
Contract form	Rely on the data information, electronic documents, etc. Fulfill organizing exhibition, agreement and responsibility between exhibitors and visitors	Rely on written materials that proves conclusion and implementation of the contract

Source: Adapted from Wang & Liu, 2010, p. 711

As we can see, Wang and Liu compare "developing exhibitions" (same concept as "virtual exhibitions") to "traditional exhibitions" (also known as "physical exhibitions") through nine parameters, namely: means of organizing exhibition, release range, exhibition site, means of display, exhibition period, range of visitors, the ways visitors gathered at target exhibitors, means of communication and, lastly, contract form.

In order to understand the previous presented table (Table 1), a personal analysis will be made regarding the comparison of the unique nine parameters, demonstrated by Wang and Liu, concerning the comparison of both mentioned types of exhibition.

Firstly, through the "means of organizing exhibition" parameter, the authors describe the resources that curators dispose when creating and handling an exhibition. Accordingly, Wang and Liu transmit and underline the simplicity of organizing a "virtual exhibition", that will be accomplished solely through online information, versus a rather complex "physical exhibition", where curators from cultural institutions will have to deal with a larger number of communication methods, presumably resulting in a bigger workload.

Moving on to the next parameter, Wang and Liu compare both types of exhibitions according to their "release range". Thus, the authors denote two major factors from their analysis:

location and target audience. Technically, “virtual exhibitions” are located online, on the World Wide Web, and are not affected by any type of physical restraints, normally associated to “traditional exhibitions”. Potential users of this sort of exhibition can access its content from anywhere in the world, provided that they have an Internet connection. As for “physical exhibitions”, in this matter, they are evidently more conditioned. Although gathering the attention from potential users around the globe, this kind of exhibition is terrestrially bound to a physical location, resulting in a direct limitation where interested users will have to travel to the specific point where the exhibition is situated. Understandably, potential users that reside far from the exhibition location, such as different cities or countries, will have to consider travel expenses and time taken when travelling between places, which could be enough for them to lose interest in their visit. Notably, “physical exhibitions” are not a few “clicks away” from being visited, as “virtual exhibitions” are. Nonetheless, these two types of exhibitions have similarities when their target audience is compared. As we can see in Table 1, Wang and Liu (2010, p. 711) point out that both types of exhibitions are focused on a “directional release”. We can interpret this fact by analyzing that both “virtual” and “physical” exhibitions consider their target audience when being created, and although having the possibility to be visited by anyone, both sorts of exhibition, either direct or indirectly, cater to a specific audience.

Regarding the “exhibition site” parameter, both “virtual” and “physical” exhibitions display an “actual scene”, as Wang and Liu refer (2010, p. 711), with concrete material to be observed. The major difference between both types of exhibitions consists on how the user experiences them. In a “physical exhibition”, the user enters (or walks through/around) a physical location, where he has the possibility to use his sensory system (see, hear, touch, etc.) to experience the content available live, as it is happening, whereas in a “virtual exhibition” the user has at his disposal a virtual simulated environment, where he can only experience its content through a device capable of connecting to the Internet, where the exhibition is displayed, such as a computer, phone, tablet, etc. Hence, although both types of exhibitions could display the same “actual scene” and type of content, its users will have a completely different experience from each one.

In the “means of display” parameter, Wang and Liu contrast the multimodal aspect of “virtual exhibitions” to the straightforward presentation of content displayed at a “physical exhibition”. Consisting on a computer-generated environment, “virtual exhibitions” have the opportunity to display data through a diverse set of digital media options, such as text,

images, video, animations, audio, etc., which certainly enhances the interactivity with its potential users. On the contrary, "physical exhibitions" rely on the display of real material, traditionally linked with the demonstration of different types of objects strictly connected to the theme of the exhibition. Even so, "physical exhibitions" can still display digital media in their presentations, though they'll possibly lack in some key features that "virtual exhibitions" possess, such as the ability to rewind videos, the capability to zoom on images, the possibility to replay audio, among other aspects.

Concerning the "exhibition period" parameter, the authors analyze the time length in which both types of exhibitions can be presented. Technically, "virtual exhibitions" can "continue indefinitely" (Wang & Liu, 2010, p. 711), as they can be stacked and displayed at the same time through the web-based platform they're being presented on. Therefore, as long as they're kept online, users can access its content anywhere at any time. Unfortunately, "physical exhibitions" don't hold the same possibilities, as they're limited by space restraints. If a cultural institution, such as a museum or gallery, desires to introduce a new exhibition, they'll have to replace the current one being presented, as they don't have the opportunity to keep on adding new objects and updating content without substituting older material.

When analyzing the "range of visitors" parameter, we can acknowledge some resemblances to the "release range" parameter examined above. Despite not referring the exhibition location aspect, Wang and Liu underline, once again, the connection of both "virtual" and "physical" exhibitions regarding their target audience. This time around, the authors directly mention that "virtual exhibitions" are "facing the network users" (Wang & Liu, 2010, p. 711), emphasizing that anyone that has a device capable of connecting to the Internet can access its content, as they do not mention a specific age group of potential users or other characteristics. Instead of reaching to such a broader audience, Wang and Liu refer that "physical exhibitions" target "specific areas or specific professional personals" (2010, p. 711), which translates into a narrower group of potential users. Despite this fact, both types of exhibitions provide different themes and content, which will naturally attract the attention of specific users at the expense of others.

In the "ways visitors gather at target exhibitors" parameter, the comparison between both types of exhibitions are rather simple and similar. In a "virtual exhibition", potential users access the exhibition, using a device connected to the Internet, either looking up the name

of the exhibition through a search engine, like Google, or through a direct link to the platform, whereas in a "physical exhibition", potential users gather directly at the physical location, and can search for booth numbers to view a certain exhibition, if necessary. The difference between both types of exhibitions on this specific parameter strictly relates, as we can examine, to the necessity of leaving a physical space in order to visit the exhibition.

Regarding the "means of communication" parameter, Wang and Liu explain how communication can be established when managing and exhibition. This parameter is quite ambiguous, as the authors lack in defining who the communication is made between. Therefore, an assumption can be made: either Wang and Liu are referring to the sort of communication made between the exhibition and its users or the communication made between the exhibition and its partners. For the communication made between both types of exhibitions and its users, we can assume that the conversation will derive from feedback given by its visitors. In this case, the means of communication provided by the authors, such as "network meeting" or "face-to-face" (Wang & Liu, 2010, p. 711) will not quite fit the concept behind a "virtual exhibition". In fact, these means of communication would better suit a conversation between a "virtual exhibition" and its partners, which would result in a more direct contact. Nonetheless, "e-mail", as Wang and Liu refer (2010, p. 711), is a more appropriated tool when establishing contact, whether if "virtual exhibitions" are dealing with users or partners. Communicating "face-to-face" is the only mean of communication referred by Wang and Liu (2010, p. 711) regarding "physical exhibitions". This type of communication can be used with both users and partners, as "physical exhibitions" deal with them personally on a daily basis.

Finally, in "contract form", the last parameter presented, the authors detail the type of information used when establishing a contract between an exhibition and, presumably, its partners, assuming that forming a contract with a user would be irrational. As "virtual exhibitions" are set online, they reasonably rely on "data information" and "electronic documents", as Wang and Liu state (2010, p. 711), in order to accomplish the contract. On the other hand, "physical exhibitions" "rely on written materials that proves conclusion and implementation of the contract" (Wang & Liu, 2010, p. 711), as the documents would have to potentially be signed and reviewed personally.

As it can be acknowledged through the analysis completed on the previous table (Table 1), "physical exhibitions" lack potential in various aspects where "virtual exhibitions" are

definitely more advanced. Concerning the prior comparison between both types of exhibition, INDICATE lists thirteen advantages of "virtual exhibitions", which further complement the study previously realized. Accordingly, INDICATE (2012, p. 19) states that "virtual exhibitions":

1. Help to promote the cultural heritage preserved by the institution;
2. Are a learning tool that helps enhance knowledge;
3. Can make accessible a number of documents and items that is much greater than what any material exhibition could ever manage to display;
4. Can make accessible to the public the most valuable works and documents, without putting the national and international cultural heritage at risk;
5. Help users to enjoy documents and works that may not be accessible otherwise;
6. Make it possible to view parts and details of works that could not otherwise be seen, not even through the direct observation of the original;
7. Remain accessible over time, since they are not limited to the duration of the actual event;
8. If online, they can almost always be "visited" free of charge by users from all over the world, who may not be able to visit the actual exhibition;
9. They are dynamic, since they can be modified even after they have been changed, both with regards to planning aspects and to their activities and contents;
10. Can be enhanced by the contributions of users;
11. They can be staged even on limited budgets, and are less expensive that actual exhibitions;
12. They can serve as an online archive for information related to the material exhibition;
13. They can have positive repercussions on the tourism industry.

Regarding the initial question ("is the "virtual exhibition" the natural successor to the physical one?") that led to this comparison of both types of exhibitions, it seems that, although "virtual exhibitions" can still be regarded as complementary to the "real ones", as they have the potential to encourage users to visit "physical exhibitions" (Monfort, 2001, p. 95), this type of "interactive exhibit offers such learning opportunities that would be difficult to replicate in a physical exhibition" (Lester, 2006, p. 95). In fact,

> the focal point of the exhibition has shifted from the encounter with the 'real thing' to the provision of learning experiences grounded within the content—the archival

> value—of the record. The virtual exhibition has enhanced the archival nature of the exhibition, but at the expense of the exhibition itself (Lester, 2006, p. 96).

Therefore, an answer can be generated, regarding the initial question, through the analysis of two different points of view. Firstly, if the subject matter is related with the users experience of the "real thing", as mentioned several times throughout this study, then "virtual exhibitions" are "unable to offer anything new or more effective than the physical display, even though it can reach a much broader audience" (Lester, 2006, p. 96). However, Lester states that, if we look into the learning opportunities provided, "virtual exhibitions" "are far more effective than in a physical display" (2006, p. 96). Hence, Lester concludes that "in regard to the informational potential of exhibited records, the virtual exhibition is indeed the natural successor to the physical" (2006, p. 96).

Chapter IV – Virtual Exhibition of the International Museum of Contemporary Sculpture of Santo Tirso

4.1. Characterization of the project

In 2017, during the first semester of the second year, both students and professors of the Masters in Intercultural Studies for Business (MISB) were involved in the development of an interdisciplinary and collaborative project, carried out through four distinct curricular units: French/Spanish/German Culture for Business III and Intercultural Communication Technologies (Pascoal, et al., 2018).

The project targeted the curating process of a virtual exhibition (to be hosted on the Google Arts&Culture platform, made possible through a protocol signed, in late 2017, between ISCAP and Google) where students were given the task of selecting a sculpture from a specific artist, collect information regarding the piece, its sculptor and other relevant data and, finally, present the assembled material through a PowerPoint presentation to the class.

The preparation and further development of the project was accomplished through the collaboration, in 2017, between the Center for Intercultural Studies and the Masters in Intercultural Studies for Business with the International Museum of Contemporary Sculpture of Santo Tirso (MIEC_ST).

In addition to being designed with the goal of promoting the Portuguese historical, cultural and artistic heritage, reflecting upon the transformation of cultural assets into marketable products, the project also aimed to equip the students with skills in the area of cultural entrepreneurship, fostering an education for the promotion of creativity and aesthetic taste, resulting in an implementation of a virtual exhibition that would display the exceptional art collection of the previously mentioned open air museum (Pascoal, et al., 2018).

Initially, the 11 students who composed the class were given the task, as referred above, of selecting a sculpture from an artist whose nationality or spoken language was directly involved with the curricular unit they were taking part in. Therefore, students enrolled in Spanish Culture for Business had to choose either artists who were Spanish or artists that spoke the language. Accordingly, the same guidelines were applied to students enrolled both in French and German Culture for Business, in order to keep the project consistent and, at the same time, culturally diverse. Additionally, it was vital to introduce the museum in the context of the virtual exhibition narrative. Hence, of the 11 students involved in the project, ten opted to research and curate one of the 54 sculptures available from the museum's

collection, whereas one student approached the museum as an institution itself, as described in the following table (Table 2):

Table 2 – Students involved in the project and respective research subject

Student's name	**Research subject**	**Artist**	**Artist's nationality**
Alexandra Mechsheryakova	The Guardian of the Sleeping Stone	Mark Brusse	Holland
Ana Filipa Lopes	MIEC's Headquarters	----------	----------
Diana Fernandes	Le Nom D'un Fou Se Trouve Partout	Paul Van Hoeydonck	Belgium
Diana Kruma	The Nature of Stone	Reinhard Klessinger	Germany
Hugo Costa	Diagonally Correct	Leopoldo Maler	Argentina
Goreti Araújo	Piège À Ciel	Pierre Marie Lejeune	France
José Pereira	Fern	Josep Maria Camí	Spain
Luísa Silva	Razorblade	Philippe Perrin	France
Sara Barros	Cube	Jacques Villeglé	France
Tiago Gonçalves	Le Porteur De Vide	Denis Monfleur	France
Vera Vieira	Untitled	Peter Klasen	Germany

Source: Adapted from Pascoal et al., 2018

The methodology behind the development of the project consisted, as Pascoal et al. (2018) explain, on eight distinct stages:

1. Knowledge and observation of the cultural assets and their sites;
2. Bibliographical research and collection of materials (texts, images, objects, guides, musical works, audio-visuals, etc.);
3. Going through all texts and designing the criteria (choice of images and design of the narrative of the virtual exhibition);
4. Selection of images and construction of a multimodal narrative;
5. Map of the virtual exhibitions;
6. Creation of textual connectors to build up the script;
7. Reviewing and testing to verify the validity;
8. Final revision of texts and multimodal documents making up the basic contents of the virtual exhibition.

In the first stage, the students were given the opportunity to visit, in person, the sculptures available at MIEC_ST, in the city center of Santo Tirso, as well as the headquarters itself. In November of 2017, the students, accompanied by the respective professors of French, Spanish and German Culture for Business, visited the space, where they had the chance to observe and study their selected research theme through a guided tour, provided by an employee of the museum.

Figure 1 – MISB students visiting MIEC_ST

The institutional support provided by MIEC_ST, which included unrestricted access to the museum's documentary material (Pascoal, et al., 2018), eased the student's task of researching bibliographical data and collecting digital materials, which fundamentally helped completing the second stage of the project.

From the third to the sixth stage, students attending the class of Intercultural Communication Technologies had the opportunity to contact directly with visual, audio, and multimodal tools, where they were able to apply those specific technological skills to support the process of intercultural communication in the context of the virtual exhibition narrative. Furthermore, students were trained on how to review and control the quality of multimodal texts, amongst other relevant learning subjects.

In the final two stages, due to the interdisciplinary character of the project, the students were evaluated on different topics according to the distinct curricular units they were attending. Therefore, at the end of the semester, in French/Spanish/German Culture for Business, students were evaluated on the presentation of their finished product regarding their research subject, through a PowerPoint presentation, where they simulated the environment of a virtual exhibition that would be hosted on the Google Arts&Culture platform, as referred before, which accounted for 40% of their final grade. In Intercultural Communication Technologies, the students were evaluated on their "learning portfolio", which contemplated a critical reflection on all the activities completed throughout the semester, plus a digital storytelling process for the general digital story (virtual exhibition) and a 30 second digital story (video), accounting for 80% of their final grade.

4.2. The Google Arts&Culture platform

The introduction to digitization and the Internet brought into the new millennium an enormous availability of archives of images and multimedia documents, which paved the way to the debut of several experimental projects that aimed to attract the attention of the general public into cultural heritage (Zucconi, 2018, p. 351). Considering the emergent popularity of this phenomena, Google founded, in February of 2011, the "Google Art Project", which would later become the "Google Arts&Culture" platform. Amit Sood, Head of the "Google Art Project", at the time, explains that the platform

> started when a small group of us who were passionate about art got together to think about how we might use our technology to help museums make their art more accessible—not just to regular museum-goers or those fortunate to have great galleries on their doorsteps, but to a whole new set of people who might otherwise never get to see the real thing up close (Sood, 2011).

When launched, the Google Art Project accounted with the partnership of "17 of the world's most acclaimed art museums" (Sood, 2011) from 9 different countries, including cultural institutions such as the "Metropolitan Museum of Art and MoMA in New York, The State Hermitage Museum in St. Petersburg, Tate Britain & The National Gallery in London, Museo Reina Sofia in Madrid, the Uffizi Gallery in Florence and Van Gogh Museum in Amsterdam" (Sood, 2011).

In April of 2012, the Google Art Project announced 151 new partnerships, across 40 different countries, making the platform accessible in 18 languages (Google, 2018). Later that same year, in October, the second iteration of the platform, titled "Google Cultural Institute", was presented to the public, revealing new exhibits on major topics, such as the "Holocaust", "Fall of the Berlin Wall" and the "Apartheid" (Google, 2018).

By May of 2013, the user engagement with the platform reached a new high, as 300,000+ users had invested in the creation of their own galleries (Google, 2018). In July of the same year, Google Cultural Institute introduced new exhibition tools, featuring "animated zoom views, maps, and video/audio captions" (Google, 2018). At the end of 2013, in December, Google Cultural Institute opened, in Paris, "The Lab", "a physical space in which technological experts and creatives from different parts of the world and fields could come together and experiment new forms of experience and cultural sharing using digital technologies" (Zucconi, 2018).

The year of 2014 saw numerous innovations and improvements to the platform. In July, Google Cultural Institute introduced the "Google Cardboard", an in-app virtual reality immersive experience (Google, 2018). In October, new digital tools were made accessible to partners, such as the "art camera", capable of creating ultra-high-resolution images, and content embedding, which enabled partners to publish material on any website (Google, 2018).

By August of 2015, Google Cultural Institute had 850+ active partners, which were using the tools available in the platform to "provide access to 4.7 million collection assets and more than 1,500 curated digital exhibitions" (Google, 2018).

Soon after celebrating 5 years since the creation of the initial "Google Art Project", Google Cultural Institute introduced, in July of 2016, the new "Google Arts&Culture" website and mobile app. Accordingly, Duncan Osborn, Product Manager at Google Cultural Institute, states that

> just as the world's precious artworks and monuments need a touch-up to look their best, the home we've built to host the world's cultural treasures online needs a lick of paint every now and then. We're ready to pull off the dust sheets and introduce the new Google Arts & Culture website and app, by the Google Cultural Institute. The app lets you explore anything from cats in art since 200 BCE to the color red in Abstract Expressionism, and everything in between (Osborn, 2016).

Since 2016, the mission of "Google Arts&Culture" platform, managed by Google Cultural Institute, remains to "build free tools and technologies for the cultural sector to showcase and share their gems, making them more widely accessible to a global audience" (Google, 2018), as Google defines the platform as a "not-for-profit initiative that partners with cultural organizations to bring the world's cultural heritage online" (Google, 2018).

Francesco Zucconi (2018, pp. 351-353) describes that, since its origins, Google Arts Project has revolved around two main axes:

1. Google Street View – the adaptation of this technology enabled "users to visit important museums and historical-artistic sites";
2. High resolution scanning technology – images made up of more than 1 billion pixels, scanned from historical art masterpieces, enabled "both expert users and the merely curious to observe a level of detail that is invisible to the naked eye and to organize these details so as to understand the meaning of the work".

Furthermore, Zucconi (2018, p. 353) explains that

> while the different technologies . . . were developed according to a principle of differentiation and mutual compatibility that has resulted in the creation of authentic

> virtual exhibitions, the Google Arts & Culture platform is also, and above all, a story made up of agreements, negotiations and partnerships.

Zucconi (2018, p. 355) adds to this idea, referring three main elements that have contributed to the increase in the number of partnerships along the years, respectively:

1. The growing need for cultural institutions to be present on the Web even though they do not have the necessary resources, either economic or technological;
2. The fact that copyright remains with the owners of everything that is digitized and placed on the site;
3. "Google Arts&Culture" being a virtual space in which the partners themselves can develop and edit quite independently the content they decide to upload.

As the Google Cultural Institute (2018) refers, "magic happens when technology meets culture". In fact, the creation of Google Arts&Culture platform and its consequent innovative technology previously mentioned, lets users, from all around the globe, "discover artworks, collections and stories . . . like never before" (Google, 2018). Ultimately, the platform encourages users and cultural institutions to curate and share with the world their own collections of art, landmarks and historical events.

4.2.1. Projects developed in the national and international panorama

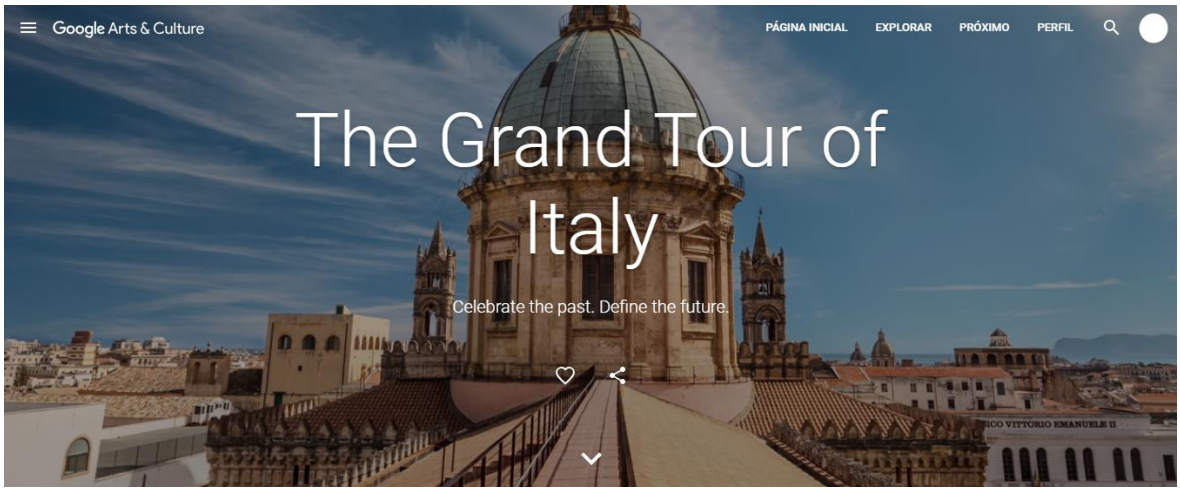
The Google Arts&Culture platform lets its users explore a varied set of categories, ranging from diverse collections, themes and experiments to different artists, mediums, artistic movements, historical events and figures and unique places. In collaboration with a significant number of cultural institutions, Google Arts&Culture has developed several meticulous projects that showcase, in a singular and original way, the world's cultural heritage.

Accordingly, in the international panorama, the platform has created extraordinary projects. A perfect example is "The Grand Tour of Italy" venture, developed in 2017. Vincenzo Tortora, Head of Consumer Marketing at Google Arts&Culture platform, explains that

> three hundred years ago, Italy's "Grand Tour" was a journey made mainly by wealthy young people from Venice to Sicily, going through Tuscany, Rome or Naples, to discover the legacy of classical art and Renaissance Masterpieces. Europe's upper-

class families made a tradition of sending their sons and daughters to explore the country's artwork to inspire a love of culture and creativity. Today Google brings this journey back to life, but this time we're making it available to everyone, everywhere (Tortora, 2017).

Figure 2 – Google Arts&Culture: "The Grand Tour of Italy" [2]



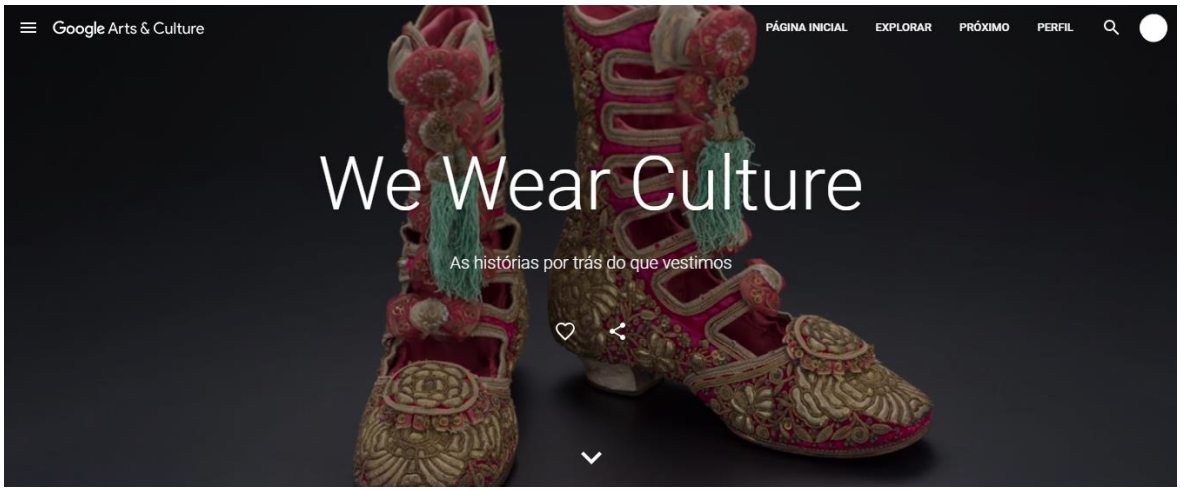
In collaboration with partners such as the "Comitato Giovani della Commissione Nazionale Italiana for UNESCO", "Teatro Massimo in Palermo" and "Fondazione Musei Civici di Venezia", Google Arts&Culture displays a project "which explores four cities in five Cardboard tours, 25 videos, 21 Street View tours, 38 digital exhibitions and 1300+ images" (Tortora, 2017), where users from all around the globe can "embark on a digital trip from Venice to Palermo, going through Siena and Rome to see some of the cultural treasures of Italy, experience timeless traditions . . . and discover Italian innovations that have changed the modern world" (Tortora, 2017).

Still in the context of the international panorama, another remarkable example of an outstanding project is Google Arts&Culture "We Wear Culture" endeavor. Kate Lauterbach, Program Manager at Google Arts&Culture, refers that one of the main goals behind the project is to show users "the stories behind the clothes" that they wear (Lauterbach, 2017), as "they all tell a story, sometimes spanning hundreds of years of history" (Lauterbach, 2017). In collaboration with "more than 180 museums, fashion institutions, schools, archives and other organizations from the fashion hubs of New York, London, Paris, Tokyo, São

[2] Available at: https://artsandculture.google.com/project/the-grand-tour-of-italy (Consulted June 24, 2018).

Paulo and elsewhere" (Lauterbach, 2017), the "We Wear Culture" project encompasses three millennia of fashion, through 30,000 fashions pieces and 450+ exhibits (Lauterbach, 2017).

Figure 3 – Google Arts&Culture: "We Wear Culture" [3]



Regarding the project, Kate Lauterbach details the possibilities that users have while exploring it:

> See how shoemakers, jewelers, tie-dyers and bag-makers master their crafts through generations, turning design sketches and tailoring patterns into clothes you can wear. Zoom into ultra-high-resolution images made with our Art Camera and see the craftsmanship in unprecedented detail, like this famous Schiaparelli evening coat, a surrealist drawing turned into a bold fashion statement. Step inside the world's largest costume collection at the Metropolitan Museum of Art's Costume Institute Conservation Laboratory in 360 degrees, and see what it takes to preserve these objects for future generations. Explore the machinery that keeps one of the largest industries in the world in motion and meet the communities that are built on the production of textiles, like the Avani Society in India (Lauterbach, 2017).

Concerning the national panorama, the projects available at Google Arts&Culture lack in prominence and support when compared with the international scene. In fact, although being created in 2011, it was only recently, at the end of 2017, that the Portuguese government acknowledged the importance of Google Arts&Culture platform regarding the potential exposure of the Portuguese cultural heritage. The partnership between the Ministry of Culture, through "Direção-Geral do Património Cultural" (DGPC), with Google

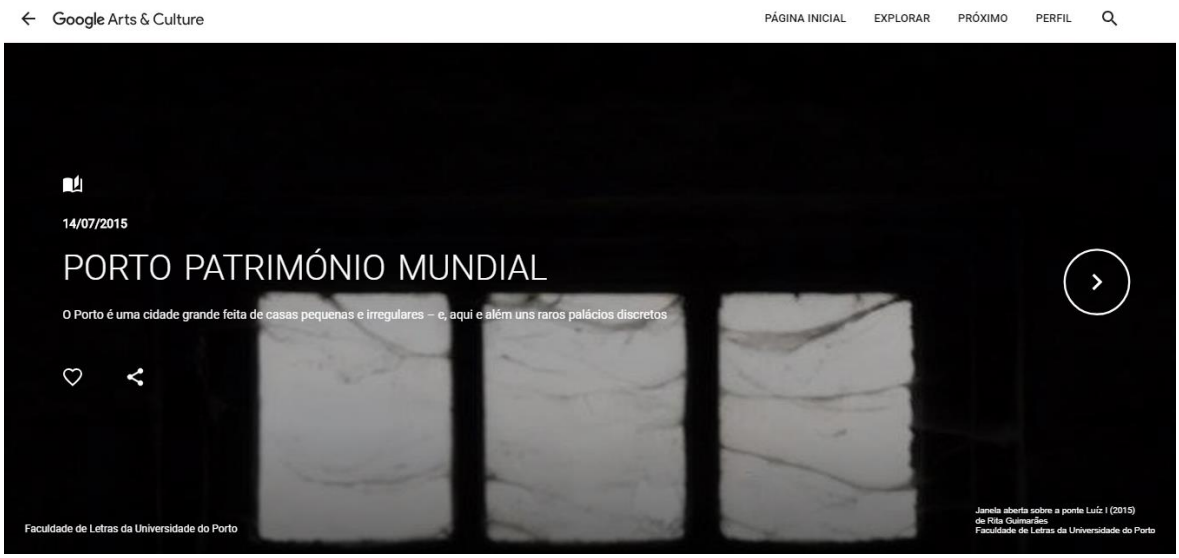
[3] Available at: https://artsandculture.google.com/project/fashion (Consulted June 24, 2018).

Arts&Culture, planned, in a first stage, to make available online the collections of seven national museums, namely: “Museu de Arqueologia”, “Museu de Arte Antiga”, “Museu de Arte Contemporânea-Museu do Chiado”, “Museu do Traje”, “Museu do Teatro e da Dança”, “Museu do Azulejo” and “Museu dos Coches” (DN/Lusa, 2017). Additionally, David Santos, Deputy Director-General at DGPC, assured that by the end of 2018, the platform will include all national palaces, museums and monuments (DN/Lusa, 2017). The Minister of Culture, Luís Filipe Castro Mendes, explained that the partnership contributes to a greater quality and attractiveness of the images that are released and made available to the public, avoiding the successive reproduction of poor-quality content that conveys a negative image of cultural institutions and, consequently, the Portuguese cultural heritage, stimulating, in this sense, the desire to meet and visit them (DN/Lusa, 2017).

Nonetheless, some national institutions had already been developing projects within the platform long before 2017. A perfect example are the virtual exhibitions set up by the Faculty of Arts and Humanities of the University of Porto (FLUP). Much like the project created by students and professors of the MA in Intercultural Studies for Business at ISCAP, described in chapter 4.1, global projects have been developed under the MA in History of Portuguese Art at FLUP, bringing together teachers and students from two compulsory curricular units: Project Seminar I and Project Seminar II (Botelho, Rosas, & Barreira, 2017). Soon after the first contact was established with Google Cultural Institute, in 2014, FLUP launched its first exhibition, in July of 2015, titled “Porto Património Mundial” (Botelho, Rosas, & Barreira, 2017).

A year later, in September of 2016, FLUP, through its MA in History of Portuguese Art, launched its second exhibition, titled “Sabrosa: Território e Património”. Both exhibitions disseminated their results in bilingual format (Portuguese and English) and presented two sites inscribed on UNESCO's World Heritage List (Botelho, Rosas, & Barreira, 2017). Since then, FLUP has added 4 more exhibitions and countless digital material to its virtual catalogue.

Figure 4 – Google Arts&Culture: "Porto Património Mundial" [4]



Besides FLUP, other relevant institutions have also contributed to the worldwide exposure of the Portuguese cultural heritage, such as the "Urban Art Gallery", a project created by the Lisbon City Council which is dedicated to safeguarding the artistic and cultural heritage of the city while seeking to sensitize and promote the new expressions of urban art (Galeria de Arte Urbana, 2018). Currently, the Urban Art Gallery includes 11 virtual exhibitions ("stories", in the context of the platform) and 220+ items strictly related to urban works of art. Additionally, the gallery provides more than 10 "virtual reality visits" to varied urban art pieces using Google's "Street View" technology, where the user has the possibility to view a specific work of art in its full extent.

4.3. International Museum of Contemporary Sculpture of Santo Tirso

The Santo Tirso International Museum of Contemporary Sculpture (MIEC_ST) was created in a joint initiative between the Portuguese sculptor Alberto Carneiro and Santo Tirso's Municipal Council, in 1991 (Azevedo, 2015). Alberto Carneiro (2015) refers that the idea of the project "began in 1987, when Mayor Joaquim Couto asked me to make a sculpture for one of the Santo Tirso squares". A short time later, after being requested for a second piece, Alberto Carneiro (2015) suggested to the city Mayor that "an important museum of contemporary sculpture could be created in the town, through ten biennial symposia featuring Portuguese and foreign guest artists along a twenty-year period". Alberto

[4] Available at: https://artsandculture.google.com/exhibit/RQLCEH_-YYXCJg (Consulted June 29, 2018)

Carneiro's vision was soon implemented, with the first of those symposia being held in 1991 (Carneiro, 2015). For the third edition, Alberto Carneiro invited Gerard Xuriguera, a French art critic, to be in charge of selecting the foreign sculptors, whereas himself would choose the Portuguese artists (Carneiro, 2015). The last International Sculpture Symposium was held in 2015, closing the cycle of ten symposia initially planned.

Originally, MIEC_ST was set up in 1996, opening its symbolic doors in 1997, which accounted with the presence of Jorge Sampaio, then President of the Portuguese Republic, accompanied by Mayor Joaquim Couto (Azevedo, 2015). The official museum structure was inaugurated in May of 2016 and consists of an impressive combination of old and new construction designs, envisioned by the Portuguese architects Eduardo Souto de Moura and Álvaro Siza Vieira (Pascoal, et al., 2018). After ten symposia and twenty-seven years later, MIEC_ST is now represented by fifty-three distinct artists (Azevedo, 2015) from more than 20 unique nationalities scattered throughout 4 continents (Pascoal, et al., 2018). Currently, MIEC_ST comprises fifty-four sculptures, distributed in six main clusters across town (MIEC, 2018), namely: Parque D. Maria II and surrounding gardens, Praça do Município, Parque dos Carvalhais, Praça Camilo Castelo Branco; Parque Urbano de Rabada and Parque Urbano de Gião.

Regarding the creation, promotion and exposure of new content, Pascoal et al. (2018) refer that MIEC_ST is one of the few examples in Portugal where initial investment in infrastructure was followed by a consistent program of activities, where the museum has been able to present a series of initiatives, such as temporary exhibitions, educational programs, lectures, performances, etc. whose quality demonstrates the commitment to transform the city into a cultural reference that goes beyond the local scope, slowly transforming it from a "place of passage" to a place worthy of being visited.

Chapter V – Methodology

5.1. Production process of a virtual exhibition

In order to carry out a virtual exhibition, it becomes necessary to outline the process leading up to it, which encompasses a series of phases and actions, each of which represent an activity to be implemented either by specialized professionals or working groups (INDICATE, 2012, p. 42).

Therefore, the production process of a virtual exhibition should include 8 crucial stages (INDICATE, 2012, pp. 41-42), namely: **brainstorming**, **planning/design**, **realization**, **testing and publication**, **communication and dissemination**, **updating**, **maintenance** and, finally, **digital preservation**.

The first stage when conceptualizing the creation of a virtual exhibition should pass through a process of **brainstorming**, where the cultural institution behind the project should thoroughly analyze the "exhibition's topics, its objectives, the subjects to be involved, the target audience, a feasibility assessment, a timeframe, and potential problems" (INDICATE, 2012, p. 41). In order to simplify the collection and organization of results from the brainstorming session, cultural institutions can follow the "5 W's of journalism, plus one H" rule (INDICATE, 2012, p. 43), where they answer 6 questions regarding the conception of the project: "who?", "what?", "when?", "where?", "why?" and "how?". Theoretically, cultural institutions could obtain the following answers to these specific questions (INDICATE, 2012, p. 43):

1. Who: the actors involved, such as the target audience, curators, institutions, etc.;
2. What: the content submitted, such as the topic, title, texts, etc.;
3. When: timeframe and possible deadlines, such as the inauguration date, links with non-virtual exhibitions, etc.;
4. Where: the places, such as the location where content is digitally stored (servers), promotions are realized, virtual exhibitions are staged, etc.;
5. Why: the goals, such as the reasons behind the decision to stage a virtual exhibition, its main topics, certain choices; etc.;
6. How: the modalities, such as the style of the exhibition, approach, technology involved, etc.

After the brainstorming stage is completed, it is vital to adapt its results into the **planning/design** phase of the virtual exhibition. This second stage is composed by a unique

set of criteria, where a project team is identified, digital resources are selected, principles and relations of the project are acknowledged, technology to be used is designated, a preliminary budget is drafted and the timeline and project phases are planned (INDICATE, 2012, p. 46).

Regarding the creation of a project team in this second stage, Patel et al. (2005, p. 182) list 6 key elements that should compose it and their consequent functions within the group, as described in the following table (Table 3):

Table 3 – Project team elements, their activity and description

Element	Activity	Description
Curator	Artefact Selection	Browse and search existing objects and metadata
Photographer	Digital Acquisition	Create and describe a digital surrogate of an artefact
Cataloguer	Data Management	Describe, catalogue and group objects
Modeler	Model Refinement	Create and describe object interpretations/refinements
Curator Exhibition Designer	Building Exhibitions	Select objects, metadata, set visualization properties
End User	Visualization	Browse, search and display objects and metadata

Source: Patel et al. (2005, p. 182)

As it is possible to acknowledge in the previous table (Table 3), Patel et al. present 5 professionals that comprise the project team dedicated to the development of the virtual exhibition (Curator, Photographer, Cataloguer, Modeler and Curator Exhibition Designer), identifying their specific activities and required skills. Technically, the last presented element, “End User”, doesn’t have a direct impact in the creation of the exhibition, as it

serves the general purpose of assessing the presented material after the virtual exhibition is executed.

INDICATE (2012, pp. 46-49) complements the list provided by Patel et al., presented in the previous table (Table 3), regarding a potential virtual exhibition project team, introducing new individual and group elements, such as:

- Scientific curator – an expert in their field, depending on a given exhibition theme, responsible for managing the scientific planning of the exhibition, from its creation to the testing of the final product;
- Scientific committee – composed of experts of proven academic and professional expertise from prestigious national and/or international institutions, responsible for providing general guidelines regarding the creation process of the exhibition;
- Technical and organizational secretariat – made up by an individual or a group of people, responsible for providing support to the curators in all phases of the project;
- Administration – group of experts responsible for the verification of the preliminary budget, drafting contracts, paying invoices, amongst other key activities;
- Digitization professionals – individuals responsible for the conversion of information from physical to digital format;
- Information architects – experts responsible for the logical structure of the virtual exhibition;
- Graphic designers – specialists responsible for the graphic layout of the virtual exhibition;
- Authors – individuals responsible for the drafting of multimedia texts and other resources;
- Web editorial office – experts responsible for the editing of web content;
- Translators – individuals responsible for the translation of the project's different languages;
- IT developers – specialists responsible for the solution of potential IT related problems;
- Communications and press office – group of individuals responsible for disseminating information, such as press releases and other communication material, through different channels, such as radio, TV, web, amongst others;

- Didactic services experts – individuals responsible for drafting, planning and coordinating educational programs;
- Sponsors – entities responsible for the contribution of funds (financial sponsors), technological expertise (technological sponsors) and other crucial means (material, human, goods, services, etc.);
- Media partners – organizations responsible for the dissemination of communication about the event;
- Quality control experts – individuals responsible for testing the accessibility, user-friendliness and quality of the exhibition;
- External consultants – professionals responsible for helping in specific topics related with the creation process of the virtual exhibition;
- Generic users – individuals responsible for assessing the material present in the exhibition;
- Digital curators – specialists responsible for the maintenance and preservation of the virtual exhibition.

From the examined outlooks on the topic, it is possible to conclude that the stage of planning/designing a virtual exhibition requires a complex set of activities accomplished by a rather substantial number of vital elements involved in this process, which most certainly requires a significant sense of preparation and organization in order to reach the next phase of the project: **realization** – the moment where "the virtual exhibition is assembled" (INDICATE, 2012, p. 41).

Once the virtual exhibition is finalized, the phase of **testing and publication** is initiated, where this particular type of exhibition is "put through a series of usability and accessibility tests, which ideally involve a panel of users" (INDICATE, 2012, p. 41) in order to be published later.

After the virtual exhibition passes the preliminary tests regarding the evaluation of generic users and is published to an online platform, the stage of **communication and dissemination** is put into practice. In this phase, cultural institutions promote their project, concerning their target audience, through social media marketing tools and other relevant communication channels (INDICATE, 2012, p. 68), such as:

- The creation of pages, events, public or private profiles on Facebook and other social networks;
- The creation of web content and initiatives aiming to create a community around the virtual exhibition (discussions, polls, contests, viral videos, communities);
- Publishing videos on video-sharing platforms such as YouTube, Dailymotion or Vimeo.

The last three stages in the production process of a virtual exhibition (updating, maintenance and digital preservation) are rather similar in what they try to achieve. When there's a necessity to modify and/or increase the content available, the exhibition goes through the **updating** stage (INDICATE, 2012, p. 42). In the same period, or later in time, the **maintenance** phase is applied, where virtual exhibitions complete periodic activities that aim to "ensure the correct running of the application, including the management of security procedures, privacy levels and terms of use, Search Engine Optimization (SEO) procedures, statistical analysis, etc." (INDICATE, 2012, p. 42). Finally, cultural institutions need to guarantee the accessibility and understandability of digital information over time (INDICATE, 2012, p. 42). That's when the stage of **digital preservation** comes into play, as it is composed by a "set of processes and activities that ensure continued access to information and all kinds of records, scientific and cultural heritage existing in digital formats" (INDICATE, 2012, p. 42).

As it is possible to understand, the production of a virtual exhibition is a meticulous process where the lack of a well-defined project team or a misjudgment in any of the previously mentioned stages can result in an unsuccessful conclusion or implementation of the project. Therefore, cultural institutions need to understand the importance of the production process in order to correctly organize and develop a consistent virtual exhibition.

5.2. Collection and treatment of research material

As detailed in chapter four, the "Virtual Exhibition of the International Museum of Contemporary Sculpture of Santo Tirso" project was developed by students and professors of the MA in Intercultural Studies for Business during the first semester of the second year. After the contribution of the students, at the end of the semester, through a presentation (and other individual assessments) in which they displayed their chosen sculpture from MIEC_ST

and other relevant related content, the collected material was transported to the Google Arts&Culture platform for an application in a real "virtual exhibition environment", made possible through a four-month internship at CEI.

The material contained on the virtual exhibition originated from four distinct sources:

1. Museum's documentary material (directly provided by MIEC_ST to the students and professors of MISB);
2. MIEC_ST website[5];
3. Individual presentations (and other individual assessments) of the students;
4. Personal visit to the museum's headquarters and surrounding area.

After the process of collecting material was completed, it was necessary to revise and adjust it so that it followed the standards required by the Google Arts&Culture platform. The material transported to the online platform consisted in four main types of digital data: text, video, images and, lastly, audio. Each singular type of data was adapted according to the overall theme of the virtual exhibition, in order to produce a consistent and cohesive project.

5.2.1. Text

Although the popular expression "a picture is worth a thousand words" would perfectly fit the concept of the virtual exhibition, due to the personal interpretive nature of the displayed sculptures, the usage of text was essential to educate the potential user of the platform on some crucial points along the virtual exhibition narrative, such as the museum's history, sculptor's information and personal views of their work, sculptures descriptions, amongst others. Along with images, text was the most predominantly type of data included in the exhibition.

Within the platform, the amount of text used was dependent on the position where it would be placed. The Google Arts&Culture platform allows its partners to divide the content of the virtual exhibition into two main segments: sections and panels. In "sections", partners can lengthen their text as long as they feel appropriate, whereas in "panels", partners are advised

[5] Available at: http://miec.cm-stirso.pt/en/ (Consulted July 4, 2018)

to keep their blocks of text to a maximum of 200 characters (even though they can exceed the imposed limit, if necessary).

With this in mind, the collected text was separated and adapted to these fixed blocks of characters to accompany, for example, the images of the presented sculptures, and kept as a whole to describe rather large chunks of information, such as the museum's history.

Table 4 – Text adaptation

Original text	**Adapted text**
The sculpture exhibited in Santo Tirso is consistent with Klessinger's previous work, encouraging the interaction between contrasting materials — iron, glass and stone. These local elements of ancestral resonances establish a complex relationship and generate a particular environment, prone to a symbolic experience of space, like the initiation circles of prehistoric cromlechs, where rough menhirs stand upright in circles, ellipses, rectangles or semicircles for the worship of stars and nature. Many different readings are suggested by Reinhard Klessinger's A natureza da pedra [The nature of stone]. By opposing the rough brutality of some materials to the weightless delicacy of others, the low stone wall and the iron and glass slanted surfaces create an atmosphere reminiscent of religious rituals and tribal gatherings.	The sculpture is consistent with Klessinger's previous work, encouraging the interaction between contrasting materials. These local elements of ancestral resonances establish a complex relationship and generate a particular environment, prone to a symbolic experience of space. The sculpture resembles initiation circles of prehistoric cromlechs, where rough menhirs stand upright in circles, for the worship of stars and nature. By opposing the rough brutality of some materials to the weightless delicacy of others, it creates an atmosphere reminiscent of religious rituals and tribal gatherings.

As it is possible to observe in the previous presented table (Table 4), the original text, regarding the sculpture titled "The Nature of Stone", was transformed into four blocks of

text, each composed of 10 to 25 words, comprising the suggested limit of 200 characters, which accompanied four different images. Overall, the usage of text in the virtual exhibition was kept to a minimum, not only to grab the attention of potential users but also to smooth the transition between sections and panels.

Another important factor regarding the treatment of the collected texts was the translation between different languages. The Google Arts&Culture platform advices its partners to edit and present their virtual exhibitions in English, which ultimately results in a greater appeal to a broader audience. Given that Portuguese is the main language in which the project consists of, the exhibition assumed a bilingual format, where users have the opportunity to view its content in one of the mentioned languages.

One of the main focusses of the translation of content was to preserve the equivalent text meaning across both languages, even if it resulted in the addition of a few more words, as it is exemplified in the following presented table (Table 5), which demonstrates one of the translated texts present on the virtual exhibition, concerning the sculpture titled "Fern":

Table 5 – Text translation

Original text	**Translated text**
The works of Camí, including the presented sculpture, also allow for an organic reading of fierce, unruly rhythms, as well as vestiges or fragments of texturally course, rough objects.	As obras de Camí, incluindo a escultura apresentada, permitem também uma leitura orgânica de ritmos agressivos e desobedientes, assim como vestígios ou fragmentos de objetos impregnados de aspereza e rugosidade textural.

While developing the virtual exhibition, the sculptor's perspective of their work was also properly incorporated into the text, through the use of direct quotations, so that potential users have the possibility to compare their personal interpretation of the sculpture to the original artist viewpoint, as it is demonstrated in the following presented table (Table 6):

Table 6 – Use of direct quotations regarding the sculptures

“The Guardian of the Sleeping Stone”	**“Diagonally Correct”**
Regarding the figure of the monkey present in the sculpture, Brusse explains that "I wanted that my stone, who was sleeping, had a guardian, and the guardian is the wise monkey sitting in his house".	Maler revealed that, after he had done the sculpture, he discovered that "the work is cut into two parts and one of the parts has the shape of an "S", which may be a symbol of Santo Tirso".

Since there was not enough collected data regarding the artist’s opinion concerning the meaning behind their work, the addition of this type of information was intentionally used to contribute to specific moments in the virtual exhibition narrative. While the use of direct quotations, in the sections dedicated to the description of sculptures, served the purpose of educating the potential user on the meaning behind the artist’s work, as previously referred, its use also provided the opportunity to inform the potential user on crucial segments of the virtual exhibition, such as the museum’s history, demonstrated in the following table (Table 7):

Table 7 – Use of direct quotations regarding the museum’s history

“Santo Tirso's International Museum of Contemporary Sculpture”
The International Museum of Contemporary Sculpture (MIEC_ST) was created in a joint initiative between the Portuguese sculptor Alberto Carneiro and Santo Tirso's Municipal Council, in 1991, although Alberto Carneiro refers that "it all began in 1987, when Mayor Joaquim Couto asked me to make a sculpture for one of the Santo Tirso squares". A short time later, after being requested for a second piece, Alberto Carneiro suggested to the city Mayor that "an important museum of contemporary sculpture could be created in the town, through ten biennial symposia featuring Portuguese and foreign guest artists along a twenty-year period”. (…)

The adaptation of direct quotations, cited from reliable sources strictly connected to the museum, into the text displayed at the virtual exhibition, helped the contained information achieve a greater credibility status. Furthermore, it can become an essential feature in which

the potential user empathizes with the quoted artists and public figures, resulting in a greater understanding of the virtual exhibition as a whole.

5.2.2. Images

Although MIEC_ST provided unrestricted access to the museum's documentary material, the necessity of collecting more data related with the available sculptures, mainly images and video, led to a personal visit, at the end of the internship (June) at CEI, to the museum's headquarters and surrounding area in order to gather as much digital information as possible. This visit resulted in the collection of more than 100 images and video clips that where later treated, according to the platforms guidelines, and transported to the virtual exhibition.

Table 8 – Image details

Image details	
Total collected images	111
Camera model used	Canon EOS 700D
Image dimensions	5184 x 3456
F-stop	f/8
Exposure time	1/125 sec.
ISO speed	ISO-100
Flash mode	No flash
Format	.JPG

The previously presented table (Table 8) demonstrates some technical characteristics of the images taken from the visit to MIEC_ST. Due to the lack of professional understanding in photography, the images were taken according to a general knowledge on the functionality of the camera, where mainly the default and/or automatic settings were used, in addition to the variation in focal length which best suited the photo.

After the collection process was completed, the image treatment phase began. In this stage, the collected images were processed through "Adobe Lightroom Classic CC", a professional image organization and manipulation software, developed by Adobe Systems, that allows the viewing, organization and editing of digital images.

Figure 5 – Adobe Lightroom Classic CC

The image treatment process began with the import of the collected images to the program's digital library. Later, each individual image was processed in the "develop" section of the program, where they were treated according to specific parameters, such as:

- Basic – responsible for the general settings of the image such as the temperature, tint, exposure, contrast, clarity, vibrance, amongst others;
- Tone curve – responsible for the control of highlights, lights, darks and shadows of the image;
- Hsl/color – responsible for controlling the hue, saturation, luminance of each individual color that composed the image;
- Detail – responsible for the control of sharpening and noise reduction of the image;
- Lens correction – responsible for managing the lens profile of the image;

Given that more than 100 images needed to be revised, the editing process was simplified through the creation of a preset, since most of the images, excluding some minor exceptions, consisted of the same background and natural light. After the preset's creation process, through the settings manipulation of a given image, the preset was applied to all images

present in the program's library. When needed, the preset was configurated in order to best suit the conditions of a certain image, through the management of individual and/or general settings.

Figure 6 – "Before & after" comparison of the image treatment process

In the previous presented figure (Figure 6), a comprehensive analysis can be made through the comparison of the "before" (left side of the figure) and "after" (right side of the figure) of the image treatment process.

It is possible to acknowledge that before the editing process, in general, the images were tinged by a bluish color and were almost absorbed by a fog-like atmosphere, which did not correspond to the conditions felt at the moment the pictures were captured. Furthermore, the details of the material in which the statue was made, in addition to the color of the grass, leaves, sky and other general elements that composed the image were almost imperceptible and did not correspond to the reality.

All of these negative aspects were improved in the image treatment process, for example: the bluish hue was substituted by a yellow tint, that better suited the conditions felt at the time the pictures were taken (sunny afternoon); the fog-like atmosphere was removed by balancing settings such as the highlights, darks, shadows, exposure, contrast, amongst

others; the details were boosted through the improvement in settings such as the clarity, vibrance, sharpening and noise reduction. Overall, the images were enhanced to properly simulate the authenticity of the captured environment, so that the potential user of the platform can have a genuine experience when visiting the virtual exhibition.

5.2.3. Video

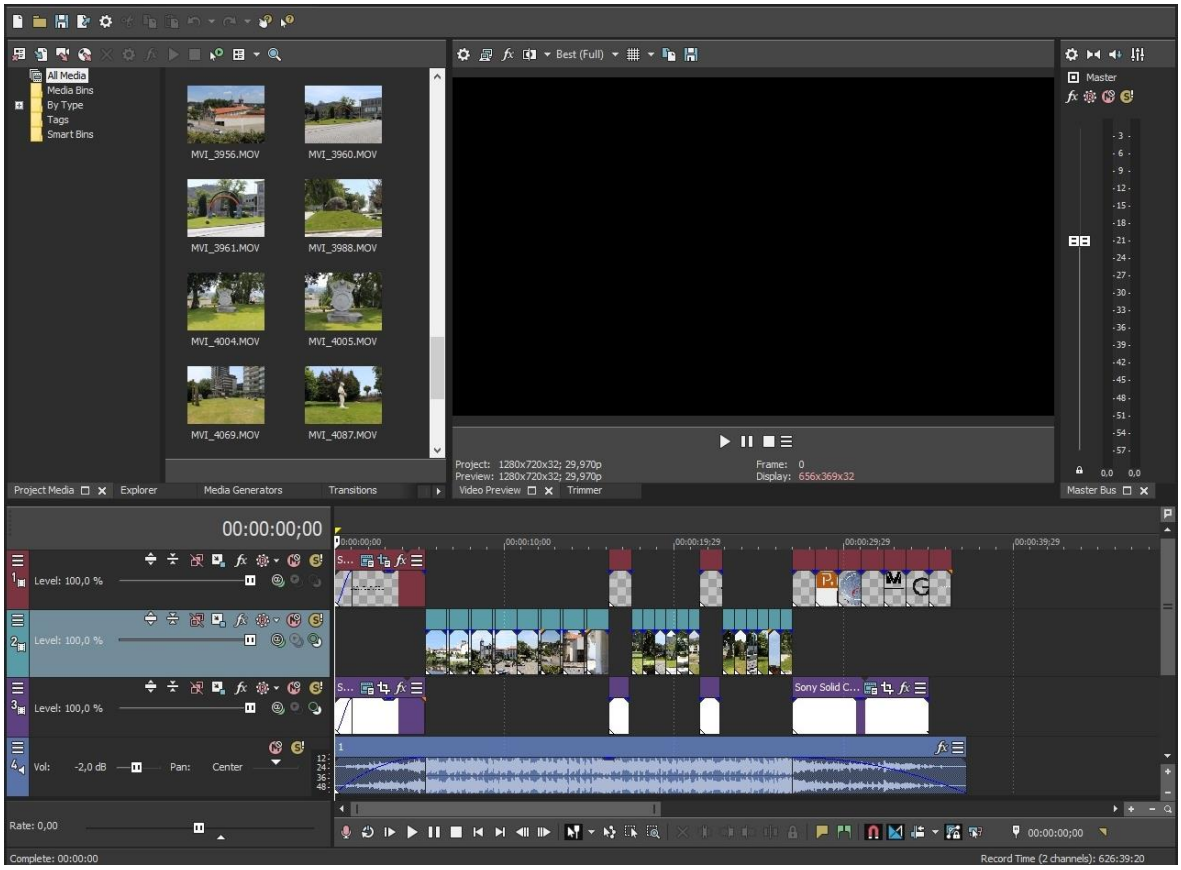
Much like the collection process of images, the majority of video clips, later transformed into informative videos, were also collected from the personal visit to the museum's headquarters and surrounding area. Unlike images, the gathered video clips provide diverse live perspectives regarding the sculptures and the museum, which is incomparable to the viewing experience of a still image, as it is directly linked to a 2D space.

Table 9 – Video clip details

Video clip details		
Video	**Total collected video clips**	107
	Length	Up to 15 sec.
	Frame width	640
	Frame height	480
	Data rate	8941kbps
	Total bitrate	10371kbps
	Frame rate	25.00 frames/second
	Format	.MOV
Audio	**Bit rate**	1430kbps
	Channels	2 (stereo)
	Audio sample rate	48.000 kHz

The previously presented table (Table 9) reveals some technical characteristics of the video clips collected from the visit to MIEC_ST. Due to a mishap in the default definitions of the camera model, the video quality was not used to its full potential (1920 x 1080, with a framerate of 29,97, 25 or 23,976 fps), and instead resulted in the recording of video clips with a lower quality (640 x 480, with a framerate of 25 fps). In order to respond to this issue, the treatment of the referred video clips revolved around its transformation into high definition (from 640 x 480 to 1280 x 720), through an upscale process.

Figure 7 – Vegas Pro 15



The video clips treatment stage was made possible through the use of "Vegas Pro 15", a professional audio and video editing software. The video clips were organized according to its theme and transported into the software's library, where they were transformed into 11 informative videos, regarding each individual sculpture and the virtual exhibition as a whole.

Much like the treatment process of images, the video clips were also individually edited within "Vegas Pro 15" software in order to adjust some crucial settings such as temperature, brightness, exposure, contrast, vibrance, amongst others, to best suit the conditions felt at the moment the data was recorded.

The time length of the informative videos was kept to a minimum in order to retain the attention of the potential user of the virtual exhibition and, also, to smooth the transition between different types of data, such as images and text. The main concept behind the production of these videos consisted on simplifying the description of information, accompanied by effective audio (music) synchronization.

Therefore, the promotional video regarding the virtual exhibition as a whole consisted on a time length of 37 seconds, comprised by the following timeline:

- 00:00 to 00:05 – introduction to the name of the virtual exhibition;
- 00:05 to 00:16 – showing of video clips regarding the headquarters of the museum;
- 00:16 to 00:27 – usage of text and video clips (regarding the sculptures available at MIEC_ST) to educate the potential user on what the museum consists of;
- 00:27 to 00:31 – usage of text and images to inform the potential user of which entities contributed to the completion of the project;
- 00:31 to 00:37 – usage of text and images to educate the potential user of which entities the project was associated with.

The informative videos concerning each individual sculpture consisted on a time length of 18 seconds, comprising the following timeline:

- 00:00 to 00:04 – introduction to the name of the sculpture and the artist that produced it;
- 00:04 to 00:18 – showing of video clips that consisted on different perspectives and angles of the displayed sculpture.

After the production process was finished, the informative videos were transported to the Google Arts&Culture platform, through a direct upload to YouTube, were they were organized according to their category.

5.2.4. Audio

The use of audio in the virtual exhibition was not independent, but rather purposely manipulated to accompany the production of the previously mentioned informative videos regarding the sculptures and the virtual exhibition as a whole. Similar to the collection of text, images and videos, the assembly and use of audio was deliberately managed to avoid

any possible copyright infringements. Therefore, the audio selected to be paired with the videos originated from two distinct sources: a free audio library and self-production.

In order to have a somewhat “normal” paced video, where the information could be clearly read with time to spare, the choice in the type of audio was crucial to the video synchronization process.

In the educational video regarding the virtual exhibition, the selected audio track, picked from a free audio library, was based around a jazzy hip-hop instrumental, whereas in the informative videos regarding the sculptures, the used audio clip was created using “FL Studio 11” software.

Figure 8 – FL Studio 11

Through the use of FL Studio 11, a software dedicated to music production, the creation of the audio clip assumed a diverse range of possible outcomes, depending on the added instruments, velocity (beats per minute), amongst other key factors.

As the same audio clip was to be used in all informative videos regarding each individual sculpture, and not to derive from the chosen audio theme concerning the promotional video of the virtual exhibition, the selected audio was created with the idea of simulating a fierce but memorable rhythm.

Figure 9 – Creation of a pattern in FL Studio 11

In order to achieve the concept previously referred, an 8-bar pattern was created within the program, composed by 3 distinct elements: a “kick” and two different types of “snares”, as it is possible to understand in the figure presented above (Figure 9). Much like the tempo of the audio present in the promotional video of the virtual exhibition (90 bpm), the composition of this pattern accompanied a similar velocity (110 bpm).

In the absence of a lengthier time period which composed the videos of each individual sculpture (18 seconds), the arrangement of the pattern did not include any type of chord progression or other potential instruments. Nonetheless, in order to contradict the unavoidable repetitiveness of the pattern, a second pattern was created, where the composition of the elements changed in the eighth bar, mainly characterized by the introduction of a new instance of the kick.

5.3. Implementation of research material

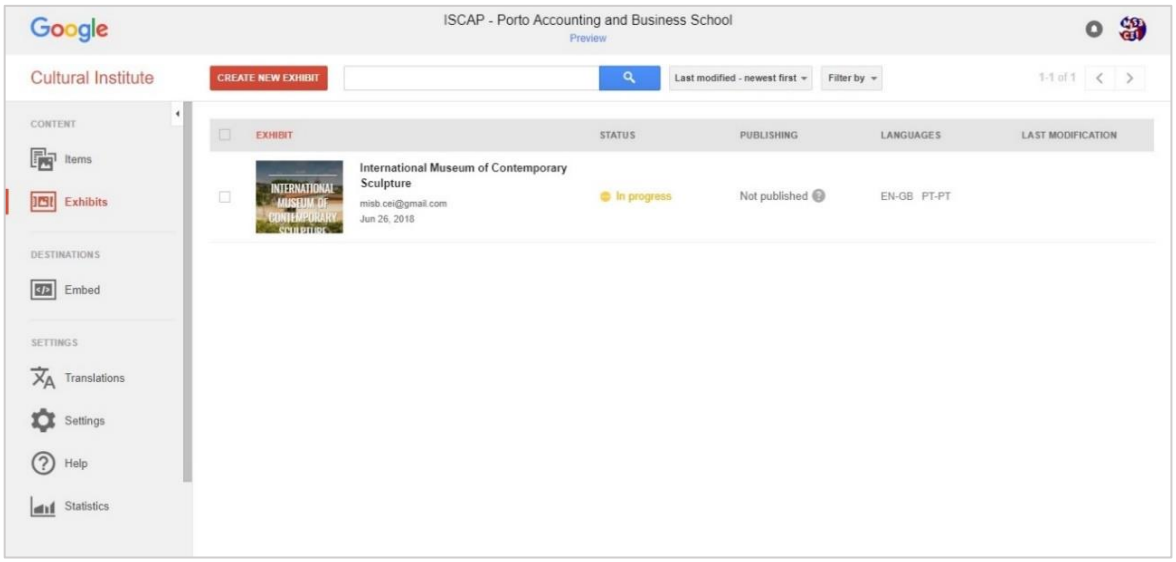
After the collection and treatment phase was completed, the content was transported to the Google Arts&Culture platform in order to be implemented in the virtual exhibition to be hosted on the website. The video sharing platform “YouTube” was also crucial to the accommodation of the produced informative videos stated before.

The application of research material within the mentioned websites was executed according to both platform guidelines, which occasionally resulted in the active resolution of conflicts, where the collected/produced content did not fit the rules imposed by these online entities. Therefore, this process was characterized by a dynamic outlook on the execution of data, focused on the attention to details.

5.3.1. Google Arts&Culture

After the protocol was signed between ISCAP and Google, in late 2017, the communication process started, with Google Arts&Culture website, in early 2018. Through the exchange of emails between a coordinator of the platform and ISCAP, the access to the website's dashboard, where the content would be uploaded and properly organized, was granted. From that point onwards, the dashboard could only be accessed when logged into the email created with the purpose of managing the virtual exhibition.

Figure 10 – Google Arts&Culture: Dashboard



As it is possible to analyze in the previous presented figure (Figure 10), the dashboard is divided into 3 main sectors: content, destinations and settings.

1. Content: the selected options available relate with the upload of items and creation of exhibits;
2. Destinations: partners have the possibility to modify certain aspects related with the embed of uploaded content, either items or exhibits, into other websites;
3. Settings: partners have the opportunity to translate the information contained in their virtual exhibition, as well as the chance to alter specific settings related with the presentation of their institution (e.g. name, logo, header image, location, website, etc.), the possibility to get help regarding problems their having while building their exhibit (e.g. how to customize account details, content guidelines, management of users, etc.) and, finally, the ability to check statistics regarding the virtual exhibition

(e.g. quantity of users that have accessed the exhibition, users location and device, number of views, shares, etc.).

The implementation of the collected research material was primarily executed in the content section of the platform, where a virtual exhibition regarding the International Museum of Contemporary Sculpture of Santo Tirso was created and items concerning the theme where uploaded and properly organized.

In a first instance, all collected material was uploaded to the Google Arts&Culture platform through the "items" parameter, available in the content section of the dashboard. This parameter allowed the upload of data through two different options: simple import and advanced import.

1. Simple import: digital data can be uploaded to the platform, straight from a partner's computer, either through the direct selection of files or by the use of the drag and drop feature. Partners can also search YouTube videos, either by specific keywords or through the direct use of a URL. Furthermore, partners have the opportunity to select one of their own YouTube videos to incorporate in the virtual exhibition.
2. Advanced import: if a partner has the intention of uploading a considerable amount of data, they can use this feature to submit items in bulk. However, partners must be comfortable in dealing with spreadsheets, CSV or XML files, as the metadata of the items has to be managed in one of these types of documents. Through this feature, while preparing the metadata, partners have to simultaneously upload the corresponding media files.

Due to the lack of skill in the operation of the file types required to successfully upload the items through the advanced import feature, the data was uploaded to the platform under the simple import parameter.

Table 10 – Google Arts&Culture: Supported media requirements

Format	Requirements
Images	• JPEG, PNG, single-image TIFF; • 2500+ pixels on the shortest side of the image (4000+ pixels recommended); • No more than 50 MB or 100 megapixels;

	• No borders; • No watermarks.
YouTube videos	• Videos must be uploaded to YouTube; • YouTube supports a range of formats including MP4, AVI, WMV and FLV.
Audio Clips	• MP3 or WAV format; • No more than 50 MB (for audio items) or 10 MB (for audio captions).
Documents	• Must be submitted as scanned page images; • Follow same format and resolution as images.

Source: Google Cultural Institute (2018a)

The Google Arts&Culture website imposes some limitations regarding the upload of content to the platform, as it is possible to observe in the last presented table (Table 10). Partners are advised to follow the supported media requirements guidelines if they want to see their content accepted by the platform.

Regarding the material submitted, all the items were uploaded according to the referenced guidelines. Two types of items were uploaded: images and YouTube videos. Concerning the images, they were submitted in JPEG format, comprising a maximum file size of 20 MB. The parameter of "2000+ pixels on the shortest side of the image" was accomplished, as all of the uploaded images consisted on the following dimensions: 5184 pixels in width and 3456 pixels in height. Nonetheless, the "4000+ pixels recommended" could not be achieved, as the camera used was not capable of capturing images in such resolution. Regarding the YouTube videos, they were in fact uploaded to the referenced platform, under the supported ".WMV" format.

After the collected material was effectively submitted, the process of arranging the metadata of each individual item began.

The Google Arts&Culture platform allows its partners to organize their item's metadata through a diverse set of fields, such as: collection priority, content type, creator, date, date created, date published, description, external link, location, location created, medium, original language, original source, physical dimensions, provenance, publisher, rights, subject keywords, title, transcript and, lastly, type. In addition, partners have the opportunity

to translate the details they submitted on the previous specified fields into more than 20 different languages.

The following presented table (Table 11) demonstrates the chosen metadata fields regarding the type of uploaded content (images and videos) and consequent translation of the submitted details.

Table 11 – Google Arts&Culture: Chosen metadata fields regarding the uploaded items

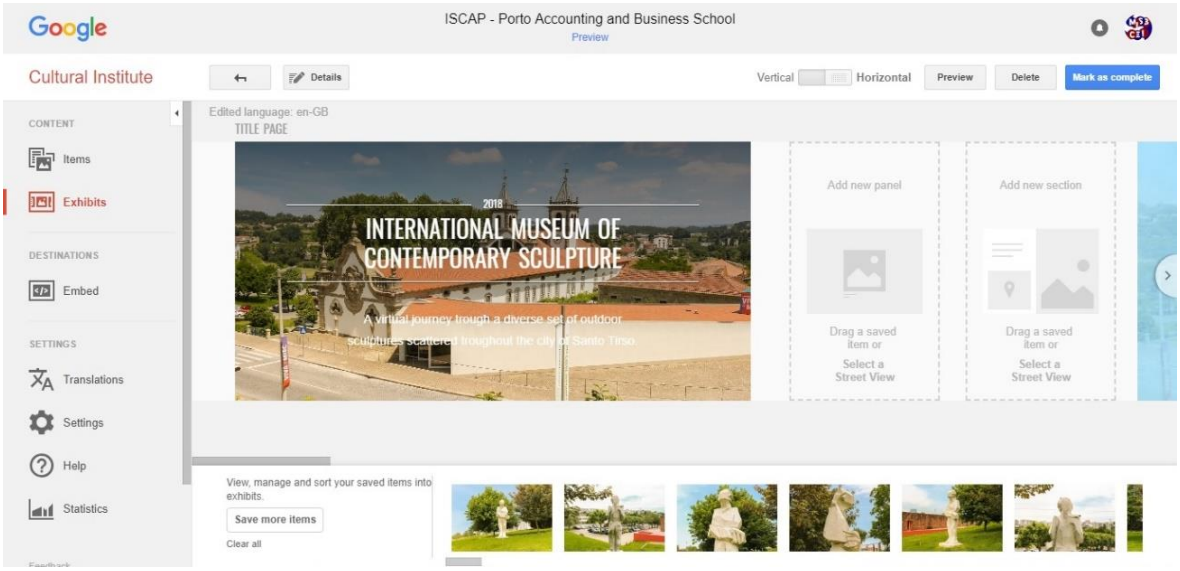
Content type	**Example**	**Metadata fields**	**Description**	**Translation**
Image	Diagonally Correct	Title	Diagonally Correct	Diagonalmente Correto
		Content type	Sculpture	----------
		Date created	2004	----------
		Creator	Leopoldo Maler	Leopoldo Maler
		Medium	Concrete	Betão
	Santo Tirso’s International Museum of Contemporary Sculpture	Title	Santo Tirso's International Museum of Contemporary Sculpture	Museu Internacional De Escultura Contemporânea De Santo Tirso
		Content type	Photograph	----------
		Rights	Hugo Costa	Hugo Costa

Video	Cube	Title	Jacques Villeglé // "Cube"	Jacques Villeglé // "Cubo"
		Content type	Sculpture	----------
	International Museum of Contemporary Sculpture	Title	International Museum of Contemporary Sculpture	Museu Internacional de Escultura Contemporânea
		Content type	Documentary	----------

Concerning the 10 available sculptures, each individual item (both images and videos) contained the same metadata fields. However, the items related to the museum's headquarters possessed different metadata fields due to the specific nature of the type of content submitted (defined as "photograph" in images and as "documentary" in the video). In total, 122 items we're uploaded to the platform, where 111 were images and 11 were videos.

After all the items were uploaded and their metadata organized, the stage of creating the virtual exhibition began. The conception of the virtual exhibition, through the "exhibits" parameter, available in the content section of the dashboard, allows partners to pick and organize, into panels and sections, images and videos that they've submitted to the platform (Google Cultural Institute, 2018b). Furthermore, partners have the opportunity to customize the title page and to add text, audio or video captions, and even Google Street View technology, to their virtual exhibition (Google Cultural Institute, 2018b). In addition, virtual exhibitions can be displayed either vertically, where the information is presented in a single page, from top to bottom, or horizontally, where the data is shown in a "series of slides that a viewer can scroll through, from left to right" (Google Cultural Institute, 2018b).

Figure 11 – Google Arts&Culture: Exhibits manager



The process of arranging the content available into thematic relations, while creating the virtual exhibition, was essential to a possible successful implementation of the project. Regarding this subject, INDICATE (2012, p. 44) enumerates 4 distinct groups where the uploaded content can be aggregated into, namely:

1. Spatial aggregation: items connected by real or reconstructed spatial links (e.g., geographic, environmental, urban, housing, etc.);
2. Temporal aggregation: items connected by chronological links (e.g., historical period, event, celebration, phase, etc.);
3. Typological aggregation: items connected by their typology (e.g., style, manufacturing technique, material, production, etc.);
4. Comparative aggregation: items aggregated on the basis of links arising out of the comparison with other models, consequently forming a network of similar contents (e.g., comparisons between civilizations, roles, etc.).

Given that the selected sculptures were already linked to a chronological setting, due to their division into ten symposia, spanning across a 20+ year period, the virtual exhibition adopted a temporal aggregation of content, where the 10 sculptures were presented from the earliest to the latest in terms of creation. If more than one sculpture consisted on the same year of creation, they were properly organized into alphabetical order, regarding their title. Nonetheless, after a short introduction to the virtual exhibition in the title page, the first

material to be presented was the International Museum of Contemporary Sculpture, closely followed by the presentation of the previously referred sculptures.

As formerly mentioned, the presented content on the virtual exhibition is mainly organized into two types of configuration: sections and panels.

Figure 12 – Google Arts&Culture: Exhibit sections

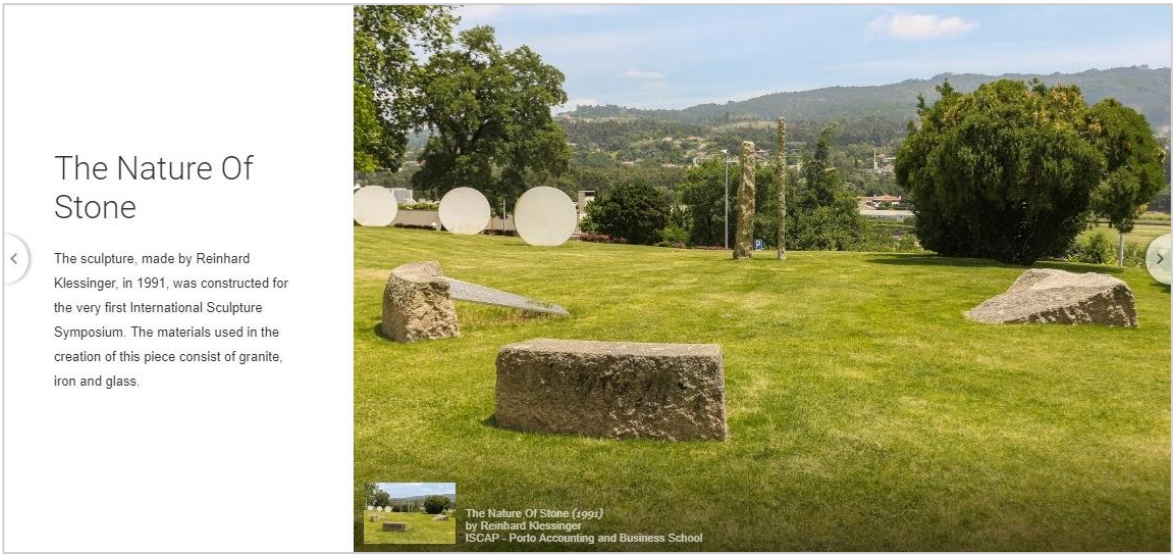


Exhibit sections allow the partners to separate and organize their content into topics or themes. As it is possible to observe in the last presented figure (Figure 12), this type of configuration was used to primarily introduce a selected sculpture, informing the potential user of the virtual exhibition on the sculpture's title, creator, year of creation, symposia and used materials.

Figure 13 – Google Arts&Culture: Exhibit panels

Within the exhibit sections, panels allow the partners to incorporate submitted items into their virtual exhibition through the use of two layout options (Google Cultural Institute, 2018c):

1. Simple: displays the item between others as users scroll through the exhibit. In a horizontal exhibit the item will appear with the caption to the right of the image. In a vertical exhibit the caption will appear below.
2. Immersive: fills the screen with the image. In a horizontal exhibit the caption will overlay the image in the corner, and in a vertical exhibit it will appear below the image.

As it is possible to observe in the last presented figure (Figure 13), the panels present in the virtual exhibition contain a different image perspective of the sculpture introduced in the sections segment. They were generally accompanied by text captions which present interesting, if not crucial, facts about the sculptures and, occasionally, their authors. The immersive layout was used in all panels throughout the exhibit in order to deeply involve the potential user in the submitted content.

The virtual exhibition assumed a horizontal configuration, where the content was divided into the following sequential arrangement:

1. Introduction to the virtual exhibition through the title page;
2. Promotional video regarding the exhibit (panel);
3. Introduction to the International Museum of Contemporary Sculpture (section);
4. Informative video regarding the first presented sculpture (panel);
5. Introduction to the sculpture (section);
6. Information regarding the sculpture (1-4 panels).
7. Replication of step 4, 5 and 6 to the succeeding 9 sculptures;
8. Credits.

The translation of all the content presented at the virtual exhibition was accessible through the “details” parameter, available in the “exhibits manager” segment of the dashboard, where the material was translated from English to Portuguese. In addition, through this parameter, partners have the opportunity to alter specific details regarding the virtual exhibition as a whole, such as the exhibit date, location, attribution, tags, amongst others.

After the arrangement of content, the platform provides partners the opportunity to preview the virtual exhibition as it stands, simulating the perspective that the potential users will have.

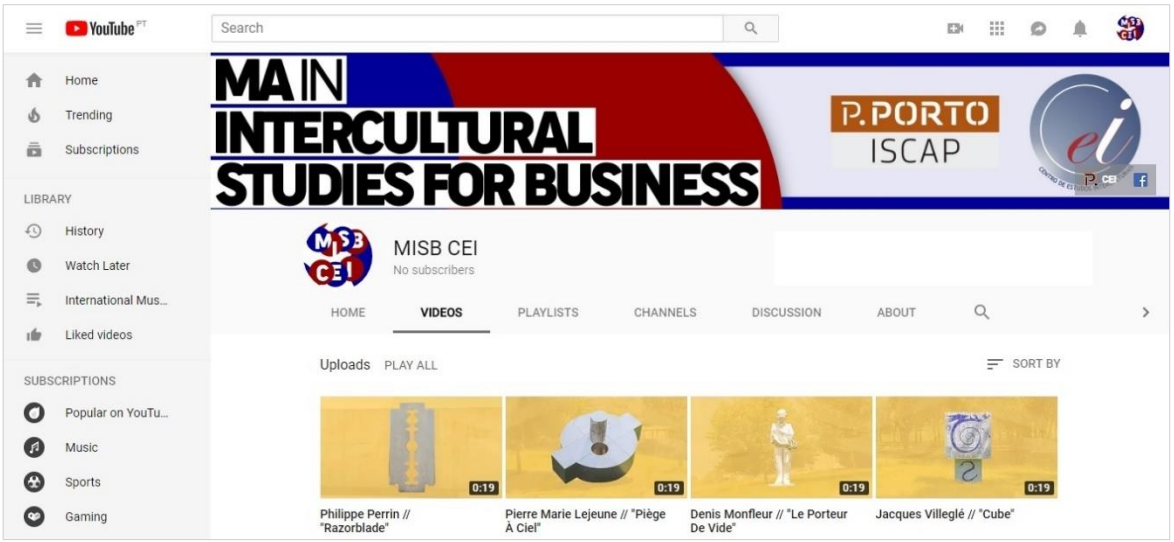
All the items uploaded to the Google Arts&Culture website, in addition to the virtual exhibition, remain unpublished, given that the status of the project still remains "in progress". Nonetheless, the objective of the four-month internship at CEI was accomplished, as all the material was collected, treated and properly implemented into the platform.

5.3.2. YouTube

Given that the produced informative videos, regarding each individual sculpture and the exhibition as a whole, needed to be imported to the Google Arts&Culture platform, they were firstly uploaded to the video sharing website "YouTube" in order to be later incorporated into the virtual exhibition.

Initially, a new channel within YouTube was created with the email that provided access to the Google Arts&Culture platform. The channel was titled "MISB CEI", in reference to the two entities which compose the project (MA in Intercultural Studies for Business and the Center for Intercultural Studies).

Figure 14 – YouTube: MISB CEI channel



Firstly, the appearance of the created channel was customized through the production of a banner and a channel icon, as it is possible to observe in the previous presented figure (Figure

14). The produced banner introduces the name of the masters and the logos of ISCAP and CEI. In addition, two links were incorporated into the banner, which direct the user to CEI's website and MISB's Facebook page. The channel icon presents the name of the channel. Both elements are composed by a blue and red theme, which represent the colors of ISCAP.

After the customization process was completed, the phase of uploading the videos began. In this stage, the videos were uploaded to the platform and later organized in YouTube's "Creator Studio". Through the "video manager" section, the details of each video were arranged under two distinct parameters: basic info and advanced settings. In the "basic info" segment, the arrangement of details involved the addition of the title, description and tags of the video. In "advanced settings", the channel owner has the possibility to modify certain aspects of the video, such as: comments, license and rights ownership, syndication, distribution options, category, etc.

The following presented table (Table 12) demonstrates the details which compose the informative video regarding the sculpture "Razorblade", concerning the previously referred parameters (basic info and advanced settings):

Table 12 – YouTube: Video details

Basic Info	Title	Phillippe Perrin // "Razorblade"
	Description	The sculpture, made by Phillippe Perrin, in 2015, was constructed for the tenth (and last) International Sculpture Symposium. Granite was the sole material used in the creation of this piece. Follow the Virtual Exhibition of the International Museum of Contemporary Sculpture at: ↳[possible link of the virtual exhibition when published] Visit CEI's (Centro de Estudos Interculturais) website and Facebook at: ↳https://www.iscap.pt/cei/ ↳https://www.facebook.com/centrodeestudosinterculturais Know more about the MA in Intercultural Studies for Business at: ↳https://www.facebook.com/MAISB2016/

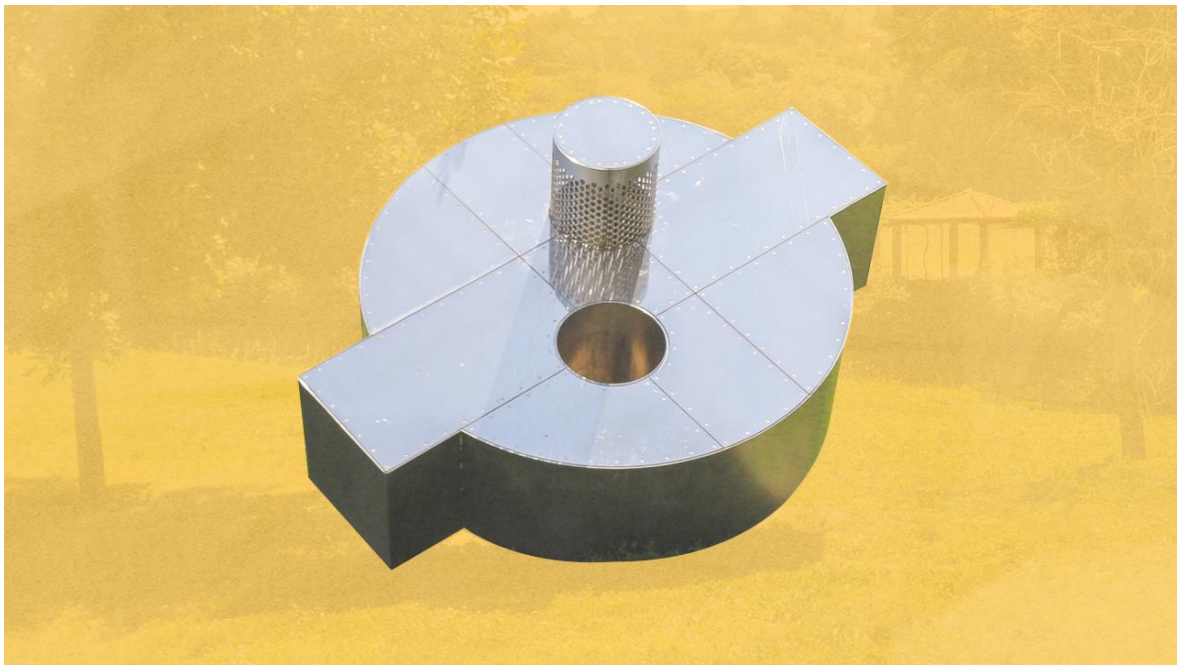
		↳https://www.iscap.ipp.pt/cursos/mestrado/20000248
	Tags	International Museum of Contemporary Sculpture; MIEC; Museu Internacional de Escultura Contemporânea de Santo Tirso; ISCAP; Instituto Superior de Contabilidade e Administração do Porto; CEI; Centro de Estudos Interculturais.
Advanced Settings	Comments	Allow comments Users can view ratings for this video
	License and rights ownership	Standard YouTube license
	Syndication	Make this video available on all platforms
	Distribution options	Allow embedding
	Category	Entertainment
	Video language	Not applicable

All of the 11 videos uploaded to the platform comprise the same details, in exception to the parameters concerning the title and description, which were modified according to the sculpture being displayed in the video. Nonetheless, the promotional information, represented by the introductory texts and URLs, regarding the virtual exhibition, CEI and MISB, which incentives the user to visit the linked pages, remains the same throughout all videos.

Additionally, YouTube allows its creators to translate the details regarding the previously referred parameters. Therefore, the information was translated from English to Portuguese, much like the content available at the virtual exhibition. Furthermore, creators can customize the thumbnails which represent the videos they've uploaded. Hence, an individual thumbnail

was produced for the 11 videos available, as demonstrated in the following figure (Figure 15):

Figure 15 – YouTube: Video thumbnails



The thumbnails created are characterized by an orange colored background, which allows the sculpture to stand out from its surrounding environment. In the case of the promotional video regarding the virtual exhibition, the background was colored in a bluish tint, so that the user could distinguish it from the remaining 10 informative videos regarding the sculptures.

After all the videos were uploaded and their details organized, they were incorporated into a playlist, titled “International Museum of Contemporary Sculpture”. This playlist was created with the intent of aggregating all the uploaded videos into one place, where they were sequentially arranged according to their specific order in the virtual exhibition.

Chapter VI – Results Analysis / Improvement Proposals

The work developed at the four-month internship at CEI consisted, as previously mentioned in this internship report, in two crucial stages: collection and treatment of material and implementation of material.

In the first phase, regarding the collection and treatment of material, four different types of data, mainly originating from four distinct sources, were collected, resulting in the compilation of 111 images, 107 video clips, 2 audio files and a diverse range of texts. The treatment of the collected material was accomplished through the operation of three separate programs (Adobe Lightroom Classic CC, Vegas Pro 15 and FL Studio 11), which resulted in the production of 111 images, 11 informative videos and 1 audio track.

The second phase, concerning the implementation of material, involved the management of two online platforms: Google Arts&Culture and YouTube. In the first mentioned platform (Google Arts&Culture), 122 items were uploaded to its online database (111 images and 11 informative videos – linked from YouTube) and 1 virtual exhibition was created, consisting on 1 title page, 1 credits page, 11 sections and 46 panels (composed of 11 videos, 35 images and 33 text captions). In the second mentioned platform (YouTube), 1 channel was created, where 11 videos were uploaded into, and 1 playlist was designed, which grouped all the submitted items into one specific place.

The results achieved in this project directly relate with the main objective of the internship, which was based around the development and implementation of a virtual exhibition through the Google Arts&Culture platform. As refered in the previous chapter, the virtual exhibition and related items still remain unpublished and the videos, available on the YouTube platform, unlisted. The general public and potential users don't have access to the content until both platforms are thoroughly revised.

Although the virtual exhibition was properly executed in the time period that the internship occurred, some technical aspects could be improved and implemented, either in the current project or in future similar projects, such as:

1. **Collection and treatment of research material:**

    a. **Use of a more technological advanced camera** – In order to improve the quality of data, such as images, videos and audio, in the process of collecting material, the upgrade of the camera used (Canon EOS 700D) to a more technological

advanced model would bring an immense value to the virtual exhibition and would introduce numerous advantages, such as a larger output size, a more accurate representation of the intricate details captured, less image noise, amongst others;

b. **Use of more professional image, video and audio editing software** – The treatment of the collected material allowed the operation of software such as Vegas Pro 15, Adobe Lightroom Classic CC and FL Studio 11. The use of more professional software related with the treatment of digital data, such as Adobe After Effects CC, Adobe Premiere Pro CC, Adobe Photoshop CC 2018, amongst others, would allow the introduction of new features into the video, image and audio production process, ultimately resulting in the creation of superior quality items.

c. Collection of additional museum's documentary material – Although MIEC provided unrestricted access to the museum's documentary material, the opportunity was not properly seized. A more direct contact with the institution should be developed in order to collect raw data strictly related with the sculptures, their artists and the museum itself, in order to improve the content available at the virtual exhibition.

2. Implementation of research material:

a. Improvement of the presentation page in the Google Arts&Culture platform – Currently, the presentation page of ISCAP at the platform consists of the institution's logo, a header composed by an image displaying the institution's facilities and, lastly, some key details, such as ISCAP's location, postcode, town/city, coordinates and website. Nonetheless, this presentation page lacks in a description of the institution. Accordingly, this parameter should be improved by requesting a statement from ISCAP's presidency, if possible its current president, regarding certain topics which best suit the description of the institution.

b. **Use of Google's technology in the virtual exhibition –** One of the main goals of the project, since its designing stage, has been to incorporate Google's technology, such as Street View, into the virtual exhibition. Unfortunately, this objective was not achieved, given that the provided Street View of the museum's headquarters and surrounding area was obsolete (images from September 2009) and did not fit the up-to-date concept that the project strived for. Therefore, this obstacle can be overcome by informing Google's personnel of the existing problem, so that the entity can allocate its resources and update the Street View of the referenced area.

c. A more direct contact with the Google Arts&Culture platform – Although the upload of items and creation of the virtual exhibition was done autonomously, the platform initially selected a coordinator to accompany ISCAP throughout the whole development process of the exhibition. In fact, it was this coordinator that assisted ISCAP in the opening of the platform's dashboard. However, from this point onwards, the opportunity to contact directly with the coordinator, on a regular basis, was not seized. Therefore, this advantage should be used to its full potential, so that future projects can rely on a greater support system and a better synergy, between both institutions, can be established.

Chapter VII – Conclusion

The opportunity to develop the project regarding the virtual exhibition of the International Museum of Contemporary Sculpture of Santo Tirso, in partnership with the Google Arts&Culture platform, within the MA in Intercultural Studies for Business, conducted through a four-month internship at the Center for Intercultural Studies, proved to be one of the most dynamic and creative opportunities I've had the pleasure of being involved in.

Achieved through the collaboration between the curricular units of Spanish/French/ German Culture for Business III and Intercultural Communication Technologies, this project combines theory and practice in a unique and exemplary way. The professional internship, carried out at the Center for Intercultural Studies, enabled the implementation of a previously defined concept through the Google Arts&Culture platform, thus fulfilling the goals established within the scope of the curricular units involved.

In addition to the aforementioned platform, this professional internship not only allowed the development of knowledge through the direct contact with new work tools, such as image, audio and video editing software, but also stimulated the quest for a more in-depth know-how of new practices in order to complete the necessary tasks for a more effective execution of the project.

In this sense, this project, along with the internship, focuses directly on one of the aspects that the MA in Intercultural Studies for Business aims to accomplish – the development of practical, analytical and critical skills for a higher profitability of knowledge and entrepreneurship in the field of culture. The achievement of this internship enabled the involvement in the application of a project to a real context – a project that resulted essentially from the synergy between students and professors of the MA in Intercultural Studies for Business.

As it can be acknowledged by the information contained in this internship report, the presentation and promotion of cultural heritage has been seriously simplified by the introduction of virtual exhibitions, through online based platforms like Google Arts&Culture. National cultural institutions have yet to embrace the enormous assortment of advantages that the introduction of this technology would bring in a reach for a global audience.

With the creation of the previously referred interdisciplinary project, further developed in the internship carried out at the Center for Intercultural Studies, ISCAP has become one of

the few national institutions to have a project present in the Google Arts&Culture platform. In this sense, the work developed at the internship, described in this internship report, could serve as an example for cultural institutions who wish to implement this technology in the way they present their assets to their target audience.

Ultimately, this internship report aims to further promote the entities involved in its development and implementation, so that new partnerships can be formed and original projects can be executed.

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Appendixes

Appendix 1 – Google Arts&Culture: Translated content of the virtual exhibition

Title page

Title	**Título**
International Museum of Contemporary Sculpture	Museu Internacional de Escultura Contemporânea
Description	**Descrição**
A virtual journey through a diverse set of outdoor sculptures scattered throughout the city of Santo Tirso.	Uma viagem virtual através de um conjunto diversificado de esculturas ao ar livre espalhadas pela cidade de Santo Tirso.

Santo Tirso International Museum of Contemporary Sculpture

Section description	**Descrição da secção**
The International Museum of Contemporary Sculpture (MIEC_ST) was created in a joint initiative between the Portuguese sculptor Alberto Carneiro and Santo Tirso's Municipal Council, in 1991, although Alberto Carneiro refers that "it all began in 1987, when Mayor Joaquim Couto asked me to make a sculpture for one of the Santo Tirso squares". A short time later, after being requested for a second piece, Alberto Carneiro suggested to the city Mayor that "an important museum of contemporary sculpture could be created in the town, through ten biennial symposia featuring Portuguese and foreign guest artists along a twenty-	O Museu Internacional de Escultura Contemporânea (MIEC_ST) foi criado numa iniciativa conjunta entre o escultor Português Alberto Carneiro e a Câmara Municipal de Santo Tirso, em 1991, embora Alberto Carneiro refira que "tudo começou em 1987, quando o presidente da Câmara Joaquim Couto me pediu para fazer uma escultura para uma das praças de Santo Tirso ". Pouco tempo depois, após ter sido solicitado para uma segunda peça, Alberto Carneiro sugeriu ao presidente da Câmara que "um importante museu de escultura contemporânea poderia ser criado na cidade, através de dez simpósios bienais, que incluíssem

year period". Alberto Carneiro's vision was soon implemented, with the first of those symposia being held in 1991. For the third edition, Alberto Carneiro invited Gerard Xuriguera, a French art critic, to be in charge of selecting the foreign sculptors, whereas himself would choose the Portuguese artists. Set up in 1996, MIEC_ST officially opened its symbolic doors in 1997, after the 4th International Sculpture Symposium. After ten symposia and twenty-seven years later, MIEC_ST is now comprised by fifty-four sculptures, represented by fifty-three distinct artists, distributed all across town.

artistas portugueses e artistas estrangeiros convidados, ao longo de um período de vinte anos". A visão de Alberto Carneiro foi desde logo implementada, com o primeiro desses simpósios a ser realizado em 1991. Para a terceira edição, Alberto Carneiro convidou Gerard Xuriguera, um crítico de arte Francês, para ser responsável pela seleção dos escultores estrangeiros, enquanto ele próprio se encarregaria de escolher os artistas Portugueses. Criado em 1996, o MIEC_ST abriu oficialmente as suas simbólicas portas em 1997, após o 4º Simpósio Internacional de Escultura. Dez simpósios depois e vinte e sete anos mais tarde, o MIEC_ST é agora composto por cinquenta e quatro esculturas, representadas por cinquenta e três artistas distintos, distribuídos por toda a cidade.

Reinhard Klessinger – The Nature Of Stone

Section title

The Nature Of Stone

Section description

The sculpture, made by Reinhard Klessinger, in 1991, was constructed for the very first International Sculpture Symposium. The materials used in the creation of this piece consist of granite, iron and glass.

Título da secção

A Natureza Da Pedra

Descrição da secção

A escultura, realizada por Reinhard Klessinger, em 1991, foi construída para o primeiro Simpósio Internacional de Escultura. Os materiais utilizados na criação desta peça consistem em granito, ferro e vidro.

Text caption

The sculpture is consistent with Klessinger's previous work, encouraging the interaction between contrasting materials.

Texto da legenda

A escultura é consistente com o trabalho que Klessinger tem vindo a desenvolver, em que se estimulam as relações entre materiais contrastantes.

Text caption

These local elements of ancestral resonances establish a complex relationship and generate a particular environment, prone to a symbolic experience of space.

Texto da legenda

Estes elementos locais de memória ancestral estabelecem uma complexa relação que gera um espaço próprio, conduzindo assim a uma experiência simbólica do lugar.

Text caption

The sculpture resembles initiation circles of prehistoric cromlechs, where rough menhirs stand upright in circles, for the worship of stars and nature.

Texto da legenda

A escultura assemelha-se a círculos de iniciação de cromeleques pré-históricos, onde menires se erguem em círculos, para o culto das estrelas e da natureza.

Text caption

By opposing the rough brutality of some materials to the weightless delicacy of others, it creates an atmosphere reminiscent of religious rituals and tribal gatherings.

Texto da legenda

Relacionando a brutalidade de alguns elementos com a leveza de outros, a escultura cria uma espécie de atmosfera que remete para os lugares de rituais religiosos ou encontros tribais.

Josep Maria Camí – Fern

Section title

Fern

Título da secção

Feto

Section description

The sculpture, made by Josep Maria Camí, in 1997, was constructed for the fourth

Descrição da secção

A escultura, realizada por Josep Maria Camí, em 1997, foi construída para o

International Sculpture Symposium. Granite was the sole material used in the creation of this piece.

Text caption

Josep María Camí's sculptural discourse is permeated by certain aspects of archetypical primitivism, further underlined by the presence of archaeological and ancestral signs.

Text caption

Camí problematises the relationship between the naturalistic references of the figurative world and the abstract world of pure geometry.

Text caption

The works of Camí, including the presented sculpture, also allow for an organic reading of fierce, unruly rhythms, as well as vestiges or fragments of texturally course, rough objects.

Text caption

The sculpture presents itself as a long, slightly curved cone, made up of four sections, that resembles conches and animal and hunting horns, ultimately alluding to archaic sculptural shapes.

quarto Simpósio Internacional de Escultura. Granito foi o único material utilizado na criação desta peça.

Texto da legenda

O discurso escultórico de Josep Maria Camí impregna-se de certos aspetos do primitivismo arquetípico, acentuado ainda por matrizes arqueológicas e signos ancestrais.

Texto da legenda

Camí problematiza a relação entre o mundo figurativo com referências naturalistas e o mundo abstrato informado pela geometria pura.

Texto da legenda

As obras de Camí, incluindo a escultura apresentada, permitem também uma leitura orgânica de ritmos agressivos e desobedientes, assim como vestígios ou fragmentos de objetos impregnados de aspereza e rugosidade textural.

Texto da legenda

A escultura apresenta-se como um cone ligeiramente torcido e alongado, constituído por quarto secções, assemelhando-se a cornos de animais, trompetes de caça ou búzios, aludindo em última instância a formas arcaicas da escultura.

Paul Van Hoeydonck – Le Nom D'un Fou Se Trouve Partout

Section title

Le Nom D'un Fou Se Trouve Partout

Section description

The sculpture, made by Paul Van Hoeydonck, in 1997, was constructed for the fourth International Sculpture Symposium. Granite was the sole material used in the creation of this piece.

Text caption

Author of a multifaceted oeuvre, Hoeydonck has always been concerned with the complex relationship between man and technology, wondering about our capacity for imagining the cities of the future.

Text caption

The sculpture shows a schematic alien, whose funny features underline the playful nature of the piece.

Text caption

An astonishing geometric creature makes us think of different life forms which, though natural, may call other age-old cultures to mind, in a play of time and fiction.

Título da secção

Le Nom D'un Fou Se Trouve Partout

Descrição da secção

A escultura, realizada por Paul Van Hoeydonck, em 1997, foi construída para o quarto Simpósio Internacional de Escultura. Granito foi o único material utilizado na criação desta peça.

Texto da legenda

Autor de uma obra multifacetada, Hoeydonck sempre dirigiu a sua atenção para as complexas relações entre o homem e a tecnologia, nomeadamente para as interrogações que nos suscitam a capacidade de imaginar as cidades do futuro.

Texto da legenda

A escultura figura uma espécie de alienígena esquematizado com traços cómicos que reforçam a componente lúdica do conjunto.

Texto da legenda

Uma criatura geométrica surpreendente conduz-nos a meditar sobre outras formas de vida que, existindo na natureza, nos podem convocar outras culturas imemoriais, num jogo de tempo e ficção.

Mark Brusse – The Guardian Of The Sleeping Stone

Section title

The Guardian Of The Sleeping Stone

Section description

The sculpture, made by Mark Brusse, in 1999, was constructed for the fifth International Sculpture Symposium. Granite was the sole material used in the creation of this piece.

Text caption

Mark Brusse is constantly looking for sources of inspiration by exploring the distinctive features of cultures and locations. In Brusse's artworks, meaning is found way beyond the obvious.

Text caption

With a pair of shallow slits, resembling closed eyelids, and two rudimentary nostrils on the granite surface, the stone has been transformed into a creature who needs to be protected in its sleep.

Text caption

Regarding the figure of the monkey present in the sculpture, Brusse explains that "I wanted that my stone, who was sleeping, had a guardian, and the guardian is the wise monkey sitting in his house".

Título da secção

O Guardião Da Pedra Que Dorme

Descrição da secção

A escultura, realizada por Mark Brusse, em 1999, foi construída para o quinto Simpósio Internacional de Escultura. Granito foi o único material utilizado na criação desta peça.

Texto da legenda

Mark Brusse procura sempre aquilo que se lhe revela como fonte de inspiração, deslocando-se constantemente na exploração das diferenças que as culturas e os espaços lhe propiciam. Em Brusse, os significados encontram-se para lá do que nos parece identificado.

Texto da legenda

Com um par de cortes superficiais, assemelhando-se a pálpebras fechadas e duas narinas rudimentares na superfície granítica, a pedra foi transformada numa criatura que precisa de ser protegida durante o seu sono.

Texto da legenda

Em relação à figura do macaco presente na escultura, Brusse explica que "queria que a minha pedra, durante o seu sono, tivesse

Text caption

This guarding monkey is the central figure, ignoring the bustle in the park, watching us from its vantage point and demanding silence with a gesture filled with irony and humour.

um guardião, e o guardião é o sábio macaco sentado na sua casa".

Texto da legenda

O macaco sentinela é o protagonista da obra, que não dando ouvidos ao barulho mundano que decorre na praça, vigia-nos desde o seu posto reclamando o silêncio num gesto pleno de ironia e humor.

Peter Klasen – Untitled

Section title

Untitled

Section description

The sculpture, made by Peter Klasen, in 2004, was constructed for the eighth International Sculpture Symposium. The materials used in the creation of this piece consist of iron and concrete.

Text caption

Peter Klasen has developed a personal, flexible discourse throughout his career, reinterpreting and reformulating modern urban and social iconography according to the aesthetic tradition of Pop Art.

Text caption

In this piece, Klasen adopted some Pop Art strategies: oversized daily objects are taken out of their contexts, and new

Título da secção

Sem Título

Descrição da secção

A escultura, realizada por Peter Klasen, em 2004, foi construída para o oitavo Simpósio Internacional de Escultura. Os materiais utilizados na criação desta peça consistem em ferro e betão.

Texto da legenda

Peter Klasen desenvolveu um discurso pessoal e flexível ao longo da sua carreira, explorando e reinterpretando uma iconografia baseada em signos gráficos sociais e urbanos da atualidade, de acordo com a tradição estética da Arte Pop.

Texto da legenda

Nesta peça, Klasen usa algumas das estratégias da Arte Pop: ampliação formal de elementos retirados do quotidiano,

relations of scale turn them into veritable icons.

Text caption

Although some details of the sculpture resemble mechanical objects or parts of an electronic device, we are confronted with an artefact whose strange spatial design is both alluring and electrifying.

Text caption

Two parts, one heavy and earthbound, the other ethereal, colourful and delicate, trace an arc looking like an example of childish architecture or a gigantic toy construction block.

propondo novas relações de escala e convertendo esses elementos em autênticos ícones.

Texto da legenda

Embora os seus detalhes permitam identificar elementos mecânicos ou partes de um dispositivo eletrónico, somos confrontados com um artefacto onde o seu estranho desenho espacial nos fascina e eletriza.

Texto da legenda

Estruturada formalmente em duas partes, uma pesada e terrena e outra aérea, colorida e delicada, a peça desenha um arco que oferece a aparência de uma arquitetura infantil ou de um gigantesco brinquedo lúdico-construtivo.

Leopoldo Maler – Diagonally Correct

Section title

Diagonally Correct

Section description

The sculpture, made by Leopoldo Maler, in 2004, was constructed for the eighth International Sculpture Symposium. Concrete was the sole material used in the creation of this piece.

Título da secção

Diagonalmente Correto

Descrição da secção

A escultura, realizada por Leopoldo Maler, em 2004, foi construída para o oitavo Simpósio Internacional de Escultura. Betão foi o único material usado na criação desta peça.

Text caption

"Diagonally Correct" develops from a partially buried rectangular figure, divided into two sections by a winding slit. It is Maler's first non-figurative, monumental sculpture.

Text caption

The weight of the sculpture is counterbalanced not only by its graceful shapes, but by the vivacious combination of colours livening up the environment.

Text caption

Maler revealed that, after he had done the sculpture, he discovered that "the work is cut into two parts and one of the parts has the shape of an "S", which may be a symbol of Santo Tirso".

Texto da legenda

"Diagonalmente Correto" desenvolve-se a partir de uma figura retangular parcialmente enterrada e seccionada em duas partes por uma curva sinuosa. É a primeira escultura monumental não figurativa de Maler.

Texto da legenda

O peso da escultura é contrastado não só pela elegância das suas formas, mas também pelo divertido jogo de cores que fazem da sua estrutura um espaço afável e agradável para a contemplação.

Texto da legenda

Maler revelou que, depois de ter feito a escultura, descobriu que "o trabalho está cortado em duas partes e uma das partes tem a forma de um "S", que pode ser um símbolo de Santo Tirso".

Jacques Villeglé – Cube

Section title

Cube

Section description

The sculpture, made by Jacques Villeglé, in 2012, was constructed for the ninth International Sculpture Symposium. The materials used in the creation of this piece consist of tile and concrete.

Título da secção

Cubo

Descrição da secção

A escultura, realizada por Jacques Villeglé, em 2012, foi construída para o nono Simpósio Internacional de Escultura. Os materiais utilizados na criação desta peça consistem em azulejo e betão.

Text caption

A keen observer of graphic and typographic signs, Villeglé started to create, in 1969, a "socio-political alphabet".

Texto da legenda

Interessado desde sempre pela tipografia e pela pesquisa gráfica, Villeglé começou a criar, a partir de 1969, um "alfabeto sociopolítico".

Text caption

The alphabet, represented in the sculpture, is made up of political, religious and currency symbols instead of letters, which he has turned into the subject matter of his paintings and sculptures.

Texto da legenda

O alfabeto, representado na escultura, é composto por símbolos políticos, religiosos e monetários, em vez de letras. Desde então, este alfabeto tem sido um dos temas principais do trabalho de Villeglé.

Philippe Perrin – Razorblade

Section title

Razorblade

Título da secção

Razorblade

Section description

The sculpture, made by Philippe Perrin, in 2012, was constructed for the ninth International Sculpture Symposium. Stainless steel was the sole material used in the creation of this piece.

Descrição da secção

A escultura, realizada por Philippe Perrin, em 2012, foi construída para o nono Simpósio Internacional de Escultura. Aço inox foi o único material utilizado na criação desta peça.

Text caption

Philippe Perrin's selection of subject matter follows a very particular criterion. The objects chosen by the artist usually include instruments connoted with violence and vandalism, as well as religion.

Texto da legenda

A seleção de temas de Philippe Perrin segue um critério muito particular. Os objetos escolhidos pelo artista incluem, de forma geral, instrumentos conotados pela violência e vandalismo, assim como a religião.

Text caption

Perrin is particularly well-known for his objects of gigantic proportions — mostly guns, but also pocket knives, razorblades, rosaries, rings and barbed-wire crowns.

Text caption

"Razorblade" echoes some of Pop sculpture's aesthetic options in the 1960's, in which trivial household objects are monumentalised through scale enlargement, in order to become oddly seductive icons.

Texto da legenda

Perrin é particularmente conhecido pelos seus objetos em grande escala, sobretudo armas, mas também canivetes, lâminas de barbear, rosários, anéis ou coroas de arame farpado.

Texto da legenda

"Razorblade" transmite algumas das opções estéticas da escultura Pop dos anos 60, onde a vulgaridade dos objetos quotidianos é monumentalizada através de ampliações de escala, convertendo esses objetos em ícones introduzindo-lhes uma estranheza sedutora.

Denis Monfleur – Le Porteur De Vide

Section title

Le Porteur De Vide

Section description

The sculpture, made by Denis Monfleur, in 2015, was constructed for the tenth (and last) International Sculpture Symposium. Granite was the sole material used in the creation of this piece.

Text caption

Denis Monfleur is one of the few artists who has kept alive the ancestral practice of subtractive sculpting, i.e., direct carving to remove unwanted material.

Título da secção

Le Porteur De Vide

Descrição da secção

A escultura, realizada por Denis Monfleur, em 2015, foi construída para o décimo (e último) Simpósio Internacional de Escultura. Granito foi o único material utilizado na criação desta peça.

Texto da legenda

Denis Monfleur pertence ao núcleo de escultores contemporâneos que mantêm viva a ancestral prática escultórica

Text caption

Monfleur prefers hard materials like granite and basalt to produce either monumental or smaller sculptures. He has managed to build up a distinctive identity through the way in which he roughs out, chisels and models his materials.

Text caption

The plastic qualities of the unfinished form and the suggested gesture stress the need for the viewer's active participation in constructing the piece´s meaning and value.

próxima da escultura por subtração, isto é, a escultura por talhe direto sobre a matéria.

Texto da legenda

A preferência de Monfleur recai sobre materiais mais duros, como o granito e o basalto para esculpir esculturas monumentais ou obras de pequeno porte. O escultor soube traçar, ao longo dos últimos anos, uma identidade singular na forma como devasta, amanha ou desenha a matéria com que se confronta.

Texto da legenda

As qualidades plásticas da forma inacabada e do gesto sugerido enfatizam a necessidade da participação ativa do espectador na construção do significado e valor da peça.

Pierre Marie Lejeune – Piège À Ciel

Section title

Piège À Ciel

Section description

The sculpture, made by Pierre Marie Lejeune, in 2015, was constructed for the tenth (and last) International Sculpture Symposium. Stainless steel was the sole material used in the creation of this piece.

Título da secção

Piège À Ciel

Descrição da secção

A escultura, realizada por Pierre Marie Lejeune, em 2015, foi construída para o décimo (e último) Simpósio Internacional de Escultura. Aço inoxidável foi o único material utilizado na criação desta peça.

Text caption

Defining himself as a sculptor-draughtsman, Pierre Marie Lejeune has developed a repertoire of forms which resemble the characters of an imaginary alphabet in permanent progress.

Text caption

Lejeune media of choice include metal (steel, stainless steel and brass), glass, mirror, water and light, which he prefers to use in their natural states, refraining from drastic intervention.

Text caption

"Piège À Ciel" is a rigorous and refined piece which develops an intimate relationship with its environment through its reflections in the mirror-finish surfaces.

Texto da legenda

Definindo-se como um escultor-desenhador, Lejeune tem vindo a desenvolver um repertório de formas que caracterizam todo o seu trabalho e que se assemelham aos carateres de um alfabeto imaginário em constante evolução.

Texto da legenda

Os materiais preferenciais de Lejeune são o metal (aço, aço inox ou latão), o vidro, o espelho, a água e a luz, que o artista prefere usar em bruto, procedendo ao mínimo de intervenção sobre eles.

Texto da legenda

"Piège À Ciel" é uma peça rigorosa e refinada que desenvolve uma relação íntima com o ambiente através de reflexos nas superfícies de acabamento espelhado.

Credits

Credits

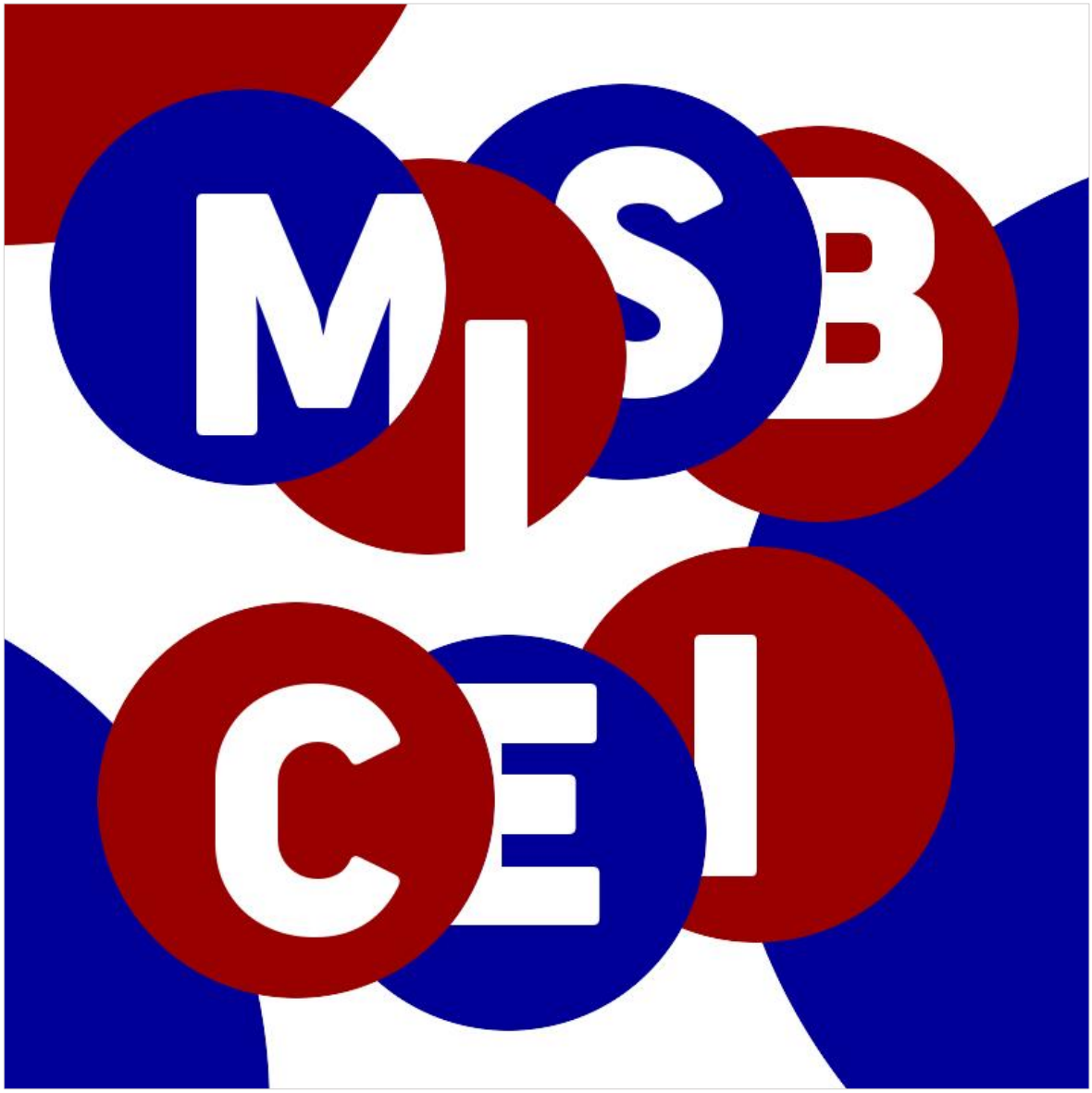
This project was developed by both students and professors of the MA in Intercultural Studies for Business at ISCAP (Instituto Superior de Contabilidade e Administração do Porto) and CEI (Centro de Estudos Interculturais) in association with MIEC_ST (Museu Internacional de Escultura Contemporânea de Santo Tirso).

Créditos

Este projeto foi desenvolvido por alunos e professores do Mestrado em Estudos Interculturais para Negócios do ISCAP (Instituto Superior de Contabilidade e Administração do Porto) e pelo CEI (Centro de Estudos Interculturais) em associação com o MIEC_ST (Museu Internacional de Escultura Contemporânea de Santo Tirso).

Appendix 2 – YouTube: MISB CEI channel icon (first creation)

Appendix 3 – YouTube: MISB CEI channel icon (second creation)



Appendix 4 – YouTube: MISB CEI channel banner